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ANNUAL SUMMARY, 1903.

INTRODUCTION.

The present annual summary completes the discussion of the meteorology of India for the year 1903.

It should be noted that in the monthly reviews an attempt is made to present the facts and data from two different points of view. Meteorological data in India are chiefly utilized for the following purposes:—

1st.—In the discussion of the prevalence and spread of diseases, more especially of cholera and other diseases of an epidemic character.

2nd.—In connection with agricultural questions, and especially with the progress and character of the crops as influenced by the weather conditions of the period.

India has hence been divided into two groups of divisions from what may be termed the medical and agricultural stand points. For the comparison of medical and meteorological statistics, India is arranged into the following provinces, which are believed to be fairly homogeneous so far as the conditions of the prevalence of the more common diseases are concerned:—

- (1) Burma Coast and Bay Islands.
- (2) Burma Inland.
- (3) Assam.
- (4) Bengal and Orissa.
- (5) Gangetic Plain and Chota Nagpur.
- (6) Upper Sub-Himalayas, including the sub-montane districts of the United Provinces and of the Punjab and the meteorological divisions of the South-East, South, Central and North Punjab.
- (7) Indus Valley and North-West Rajputana.
- (8) East Rajputana, Central India and Gujarat.
- (9) Deccan.
- (10) West Coast.
- (11) South India.

The data for each of these divisions are given in Table I in large figures, and the portion of each monthly review, entitled "Summary of the chief features of the weather in India during the month" is intended to give a sketch of the broader and more important features of the weather in India for the use of those who study the relations between the prevalence of diseases and the weather conditions prevailing at the time in India.

According to the second method of arrangement, India is divided, from the agricultural stand point, into 57 meteorological districts or divisions each of which is fairly homogeneous so far as the distribution of rainfall and the general character of the crops and the conditions of their growth are concerned. The following gives the two

series of divisions arranged under the respective political areas or provinces to which they belong:—

Political Division or Province.	Meteorological Division.	Meteorological Province.
BURMA	Tenasserim and Bay Islands.	Burma Coast and Bay Islands.
	Lower Burma	
	Arakan	Burma Inland.
ASSAM	Central Burma	
	Upper Burma	
	Assam (Surma)	Assam.
BENGAL	„ (Brahmaputra)	
	East Bengal	Bengal and Orissa.
	Deltaic Bengal	
	Central Bengal	
	North Bengal	
	Orissa	
	Chota Nagpur	Gangetic Plain and Chota Nagpur.
UNITED PROVINCES OF AGRA AND OUDH.	South Bihar	
	North Bihar	
	United Provinces, East	
	United Provinces, Central.	
	South Oudh	
PUNJAB AND NORTH-WEST FRONTIER PROVINCE.	North Oudh	Upper Sub-Himalayas.
	United Provinces, East Sub-montane.	
	United Provinces, West Sub-montane.	
	South-East Punjab	
	South Punjab	
BOMBAY, NORTH	Central Punjab	Indus Valley and North-West Rajputana.
	Punjab Sub-montane	
	North Punjab	
RAJPUTANA AND CENTRAL INDIA.	West Punjab	East Rajputana, Central India and Gujarat.
	Sind	
	West Rajputana	
BOMBAY, NORTH	Central India, East	
	Rajputana, East, Central India, West.	
UNITED PROVINCES	Kathiawar and Cutch	
	Gujarat	
	United Provinces, West	

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Political Division or Province.	Meteorological Division.	Meteorological Province.
BOMBAY	Bombay Deccan	Deccan.
	Khandesh	
	Berar	
CENTRAL PROVINCES	Central Provinces, West	
	" " Central	
	" " East	West Coast.
HYDERABAD OR THE NIZAM'S DOMINIONS.	Hyderabad, North	
	" South	
BOMBAY	Konkan	
	Malabar	
	Madras, South	South India.
	" " Central	
MADRAS	" East Coast, South	
	" Central	
	" East Coast, Central	
	" East Coast, North	Hills.
COORG AND MYSORE	Coorg	
	Mysore	
	Assam Hills	
	Bengal Hills	
HILL DISTRICTS	United Provinces Hills	
	Punjab and North-West Frontier Province Hills	
	Baluchistan Hills	

The double grouping is shown in Plate I at the end of this summary.

The data of Table I in the monthly reviews and in the present annual part are obtained, with a few exceptions, from the observations telegraphed daily to Simla for publication in the Daily Weather Report. In the case of thermometric observations, they are telegraphed to the nearest half degree. Hence the maxima and minima temperature data of the second class observatories derived from these telegraphic reports and given in Table I occasionally differ to some slight extent from the means of the more exact data (recorded to the tenths of a degree) tabulated in the observation forms sent to the Calcutta Office, and used in the calculation of the mean temperature data in Table II. There is also another reason why the mean maxima and minima data in Tables I and II differ to a slight extent. In Table I the daily or 24 hours' period is assumed to end at 8 A.M., and in Table II at 4 P.M., and hence the maximum temperature in Table I for any month of thirty-one days at any station gives the mean for thirty-one periods of 24 hours ending at 8 A.M. of the 31st, and in Table II for the same number of 24 hours' periods ending at 4 P.M. on the 31st, and hence virtually of a monthly period one day in advance of the former. Similarly for months of 28, 29 or 30 days. These remarks will explain some of the slight discrepancies which may be found between the maxima and minima temperature mean data in Tables I and II, and hence also in the monthly mean departure data given in these tables in the monthly reviews and annual summary.

The methods of exposure of the instruments at observatories in India, and of the reduction of the observations and the calculation of mean data, have been fully stated and explained in the Annual Reports on the Meteorology of India, and need not be repeated. The reader is referred more especially to the Annual Report of the year 1885 and to the "Instructions to observers of the Indian Meteorological Department" for full information on this subject.

Solar and Magnetic Activity.

Report from Kodaikanal Observatory.

Sunspots and Faculæ.—The increase in the number of spots and faculæ visible during 1903 as compared with 1902 has been very marked. In the former year there were 253 days or 69% on which the sun's disc was free from spots and in the latter only 81 days or 22%. During 1902 the total number of groups of spots seen was

only 41, while in 1903 no less than 143 groups made their appearance. The increase in the number of spot groups throughout the year was well marked though by no means uniform as is shown in the following table of the new groups appearing each month, which also gives the monthly numbers for the previous year.

YEAR.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
1902	4	2	3	2	3	2	2	5	5	5	4	4	41
1903	6	7	5	13	11	10	10	18	9	12	17	25	143

During 1902 there was one period of 31 days during which no spot was seen and in January and February 1903 there were spotless periods of six days, but from September 24 to the end of the year there was not a single day on which the sun was free from spots. The size of the spots also showed a tendency to increase. Most of those in the early part of the year were small but towards the end of the year there were a number of larger spots. Of these by far the largest was one first seen on October 5 which eventually became the largest spot that has been seen since January 1897. As measured at Greenwich on October 9 it had a length of over 17° while its greatest breadth in heliographic latitude was $6^{\circ}7'$. Its total area was 2,080 millionths of the sun's visible hemisphere or say equal to a circular area 55,000 miles in diameter. It was easily seen without a telescope. This spot was a very disturbed one and underwent many changes of form before it passed out of sight round the western limb on October 18. It reappeared at the eastern limb on November 2 totally changed in appearance, and it fully retained its changeable character up to the time of its final disappearance.

The tendency for outbreaks of spots to take place in certain definite localities is usually best shown when the number of spots is increasing and this was the case in 1903, especially in the northern hemisphere. Of the larger spots nearly one-third of the whole number appearing in the northern hemisphere lay between longitudes 210° and 250° while between 10° and 75° and between 140° and 190° not a single important spot was seen.

The distribution in latitude has been quite normal, almost all the spots in both hemispheres lying between latitudes 15° and 25° . Spots were pretty equally divided between the two hemispheres till towards the close of the year when a succession of important groups in the southern hemisphere were unbalanced by northern groups.

Spectra of Sunspots.—The spectra of sunspots were observed on 114 days during the year and the acting Director summarises the results by stating that the spectrum of the spots has been identical in every respect with that seen during the last four or five years. The most widened lines were due to vanadium, scandium, titanium and some unknown element or elements.

Prominences.—Systematic observations of prominences were not begun till September and the records were not complete so that it is not possible to estimate accurately the increase in the sun's activity in this respect. It

is, however, evident that there was a large increase in the number of prominences as compared with 1902 and as the number of spots increased towards the end of the year the number of prominences also increased. The mean daily number for 1902 may be taken as from 5 to 6 while in 1903 the records give 3.2 for September, 6.7 for October, 6.5 for November and 10.2 for December.

Spots and Magnetic Disturbances.—The apparent connection between terrestrial magnetic disturbances and the passage of spots across the sun's central meridian was well illustrated by the great spot (No. 153) of October and still more so by another group (No. 160) which made its first appearance on October 25. In the case of the former of these the magnetic disturbance lasted from October 12^d 18^h G. C. T. to October 13^d 4^h. At the time of commencement of the disturbance the centre of the principal spot of the group was about 17° west of the central meridian. In the case of the latter the magnetic disturbance began on October 31^d 6^h G. C. T. and ended on November 1^d 5^h, and at these times the centre of the principal spot of the group was approximately 8° east and $4\frac{1}{2}^{\circ}$ west of the central meridian. The disturbance connected with No. 153 was not very large but according to Mr. Maunder "the magnetic changes in this disturbance were of a bolder and more active character than those recorded in any similar disturbance during the preceding five years".

The disturbances connected with No. 160 were such as to form a great magnetic storm which was probably the greatest for at least 20 years. The extreme ranges of the magnets were not recorded here as the spot of light passed far beyond the edge of the sensitive paper, but it is known that elsewhere the declination magnet moved through a range exceeding 2° . The magnetic disturbance was world wide and has led to many investigations regarding the connection between sunspots and magnetic storms. From these it appears to be amply proved that some connection exists but it is as yet far from clear why the effect produced by comparatively small spots should often be much greater than those produced by larger spots. It seems not unlikely that spectroscopic results will throw light on this question and already several very suggestive observations have been obtained.

C. MICHIE SMITH, Director,
Kodaikanal and Madras Observatories.

Report from Colaba Observatory.

The mean *observed* values of the year obtained from monthly means are as follows:—

Declination	:	:	:	:	16'39"
Horizontal Force	:	:	:	:	37422 C.G.S. units.
Dip	:	:	:	:	21°43'4."

The mean values for the year of the different elements corrected for 24 hours of the tabulation are as follows:—

Declination	:	:	:	:	17'5"
Horizontal Force	:	:	:	:	37409 C.G.S. units.
Vertical Force	:	:	:	:	14908 C.G.S. units.
Calculated Dip	:	:	:	:	21°43'7."

The maximum of the Horizontal Force at Colaba appears to have been passed in the year 1897, the value recorded that year being 37449 C. G. S. units. The general tendency towards the maximum of the great secular period for this element at Colaba had long been noted, but as previous experience had shown that this may possibly have been due to a mere temporary abeyance in the magnetic activity, publication of the fact was deferred till further evidence was collected: from the character and indications of the growth, it appears now almost certain that the maximum was passed in 1897, seventeen years after the maximum epoch of Declination which was passed in 1880.

In connection with the oscillations of the magnetic energy with the 11 yearly period the general features of the year show that the magnetic activity (as measured by the movement of the Horizontal Force needle and indicated by summed ranges) which had registered a record minimum in 1902, was again beginning to gather strength. From column 5 in the table No. 1 appended which gives summed ranges from month to month it will be seen that the range figures run up to '003232 and '003186 for April and October respectively. No feature of annual variation can be accepted as being strictly common to all years, but it may be noted that the larger figure for the month of April appears to be one which is generally pronounced in almost all years, while the high figure for October seems peculiar to only the few two or three years which immediately precede the maximum epoch.

The last maximum was attained in July 1893 and the minimum which was reached in February 1902, marks out the interval from maximum to minimum as 8·6 years; this is an unusually prolonged interval in the Colaba curves which run now from 1846 to 1903. The corresponding interval after the great burst of energy in September 1870 was 7·6 which was the largest registered till then. After the much less pronounced activity of 1893, the longest interval and the record minimum both indicate a more pronounced fall in the total energy and tend to show that the rise to the next maximum will not improbably be a slow and much less energetic phenomenon. If points of resemblance between years of 1902-1903 and previous groups of years are of any significance, which is unlikely, the parallelism between these years and 1880-1881 is more apparent than in any other years of the five eleven-yearly cycles recorded at Colaba.

In connection with the question of the relation between sunspots and magnetic activity, an attempt has been made, as the Colaba traces are not so much disturbed as in higher latitudes, to have them classified putting days otherwise generally quiet into two divisions, (1) those in which the diurnal variation is more or less well pronounced, and (2) those in which the diurnal variation

is almost suppressed or distinctly reversed. The traces and tabulations of past years are being thus grouped separately for discussion. Of class (2) the following days have been especially marked in the year 1903, 6th February, 10th June, 17th August, 16th and 30th September, 3rd, 7th, 19th, 28th and 29th December.

Seven seismic disturbances were recorded in January: on 4th, 5th, 6th, 14th, 17th, 22nd and 24th, that recorded on the 14th being the largest with an amplitude of 12 m.m. Declination and Horizontal Force magnetographs were simultaneously affected during the disturbance, the greatest effect being produced on the Horizontal Force traces. These movements, it may be noted, are peculiarly characteristic and are not caused by any mechanical disturbance of the instruments, but appear to be due to the disturbance of the prevailing magnetic conditions. The absence of movement in the Vertical Force magnetograph is suggestive in this respect. Nine seismic disturbances were recorded in February: on 1st, 2nd, 6th, 11th, 12th, 27th, and 28th double disturbances being recorded on 6th and 27th. The first one on the 27th was the largest during the month, showing an amplitude of 9 m. m. Two disturbances were recorded in March, three in April, two in May, two in June, two in August, five in September, six in October, two in November, and five in December, all more or less of small magnitudes.

Table No. 2 gives dates, etc., of the magnetic traces which on examination have shown suspected movements; these have in some cases preceded seismic disturbances, in some cases have followed them and in a few cases they have been recorded simultaneously.

Further comparison of seismic records as given by Milne's Seismograph and Colaba Seismographs, which are adjusted to about the same periods, confirms the view expressed before that the movements recorded are in the case of all distant earthquakes horizontal movements and involve little or no tilt.

TABLE I.—*Mean monthly absolute values of Horizontal force, Declination and Dip at Colaba.*

Month.	ABSOLUTE VALUES OF			Horizontal Force summed ranges.
	Horizontal Force.	Declination.	Dip.	
		° ' "	° ' "	
January 1903	37430	0 18 17	21 40·7	'001646
February "	37435	0 18 1	21 40·3	'002038
March "	37442	0 17 53	21 41·3	'002952
April "	37431	0 16 29	21 40·7	'003232
May "	37425	0 15 8	21 41·0	'002797
June "	37437	0 16 0	21 42·0	'002710
July "	37439	0 16 36	21 43·7	'002868
August "	37418	0 15 29	21 45·4	'002356
September "	37404	0 15 26	21 45·3	'001951
October "	37415	0 16 48	21 45·4	'003186
November "	37392	0 16 45	21 47·6	'002256
December "	37390	0 16 54	21 47·6	'002194

TABLE II.—*Seismic Disturbances recorded at Colaba.*

DISTURBANCES RECORDED BY MILNE'S SEISMOGRAPH.						HORIZONTAL FORCE MOVEMENTS.	
Date.	Hour of maxi- mum distur- bance.	Amplitude m. m.	Date.	Hour of maxi- mum distur- bance.	Amplitude m. m.	Date.	Commencement, Hr.
Jan. 4th 1903.	11	1.0	Feb. 27th 1903.	6	8.6	Jan. 2nd 1903.	16
" 5th "	6	0.5	" " "	9	0.7	" 3rd "	22
" 6th "	3	0.4	" 28th "	16	0.3	" 5th "	22
" 14th "	8	12.1	Mar. 22nd "	20	1.8	" 6th "	23
" 17th "	20	0.5	" 30th "	9	0.6	" 13th "	23
" 22nd "	5	0.3	Apl. 25th "	17	0.5	" 24th "	18
" 24th "	22	0.6	" 29th "	5	3.5	" 26th "	14
Feb. 1st "	14	5.2	" " "	10	1.5	Feb. 12th "	22
" 2nd "	16	0.4	May 13th "	12	0.8	" 15th "	21
" 6th "	1	2.1	" 17th "	6	2.3	Mar. 5th "	2
" " "	13	0.9	June 2nd "	19	0.8	" 22nd "	18
" 11th "	21	1.0	" 8th "	11	0.4	" 28th "	0
" 12th "	23	0.5	Aug. 11th "		1.4	" 29th "	6

TABLE II—*concluded.*

DISTURBANCES RECORDED BY MILNE'S SEISMOGRAPH.						HORIZONTAL FORCE MOVEMENTS.	
Date.	Hour of maxi- mum distur- bance.	Amplitude m. m.	Date.	Hour of maxi- mum distur- bance.	Amplitude m. m.	Date.	Commencement, Hr.
Aug. 13th 1903.	21	0.5	Oct. 23rd 1903.	19	0.3	May 17th 1903.	3
Sept. 1st "	20	0.3	" 30th "	9	0.5	Aug. 26th "	4
" 7th "	12	0.3	Nov. 10th "	22	0.4	Sept. 27th "	10 1/2
" " "	12	0.4	" 26th "	16	0.9		
" 8th "	10	0.5	Dec. 4th "	2	0.8		
" 25th "	6	0.3	" 5th "	10	0.5		
Oct. 2nd "	3	1.5	" 10th "	21	3.0		
" 10th "	22	0.3	" 23rd "	6	0.5		
" 21st "	15	1.2	" 28th "	8	1.6		
" 23rd "	7	0.7					

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Solar Radiation.

It was stated in the Annual Report of 1889 that the observations of solar thermometers are liable to large and irregular changes which make them unfit for accurate observation in India, except perhaps at the first class observatories. The instruments were accordingly withdrawn from use, except at the following stations:—

Srinagar.	Jodhpur.	Bombay.
Simla.	Allahabad.	Leh.
Lahore.	Calcutta (Alipore).	Aden.

Observations of the solar thermometers were made during the year 1903 at all these stations with the exception of Aden. The monthly averages of past years and the departures from them of the data of 1903, are given in Tables III and IV and the mean comparative data for the past fourteen years in Table V.

TABLE III.—Average excess of mean monthly and annual maximum insolation over the corresponding maximum shade temperatures.

STATION.	Years of observations used.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
		°	°	°	°	°	°	°	°	°	°	°	°	°
Simla	1890-03.	61.2	64.8	68.3	69.0	68.4	62.7	49.7	48.5	59.6	69.1	66.7	63.2	62.6
Lahore	Do.	48.6	54.0	56.5	57.2	53.5	50.7	52.7	55.6	53.7	52.6	50.3	47.5	52.7
Jodhpur	1897-03.	52.8	55.5	56.5	56.8	54.6	53.4	56.6	57.1	56.0	53.1	51.5	50.3	54.5
Allahabad	1890-03.	57.5	57.8	58.2	57.4	56.5	56.6	56.4	56.8	58.7	55.7	56.5	57.1	57.1
Calcutta (Alipore)	Do.	52.7	53.6	54.6	55.2	55.3	54.0	55.4	56.6	57.5	56.3	53.9	53.0	54.8
Bombay	Do.	50.0	51.1	50.6	51.0	50.9	46.5	42.6	45.7	49.1	50.1	50.2	49.2	58.9
Leh	Do.	67.3	74.9	73.6	72.7	69.2	66.8	65.2	65.2	66.2	66.9	65.3	63.6	68.1
Aden	1890-02.	51.5	52.6	51.8	48.0	45.6	41.1	42.0	44.9	49.6	52.4	50.6	50.2	48.4

TABLE IV.—Departures from the averages of Table III. of mean monthly and annual excess of sun over shade temperatures in 1903.

STATION.	Number of years that the instrument, the observations of which are utilized for this comparison, has been in use.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
		°	°	°	°	°	°	°	°	°	°	°	°	°
Simla	4	-5.2	-3.5	-11.3	-6.9	-5.5	-2.4	-3.9	-4.2	-17.0	-1.1	+0.1	-0.5	-5.1
Lahore	18	-3.5	-2.8	-0.8	-2.8	-0.6	-3.4	-3.9	-2.7	-2.0	-3.8	-3.4	-2.0	-2.6
Jodhpur	6	-1.1	+0.8	-0.2	+1.3	+1.3	-0.3	-0.1	-4.7	-1.7	-0.1	+0.5	+0.3	-0.3
Allahabad	14	-2.1	+1.8	0	+1.0	+0.6	-3.3	+0.9	+0.1	+3.3	-1.8	-0.3	-1.2	-0.1
Calcutta (Alipore)	2	-4.4	-0.8	-2.4	-4.6	-2.3	-0.8	+1.6	-2.8	-3.5	-2.4	-1.4	-1.0	-2.0
Bombay	18	-1.7	-1.5	-1.2	-2.2	-4.7	+0.6	-5.9	-1.7	-2.8	-2.9	+0.6	+2.1	-1.8
Leh	8	-7.6	-7.2	-0.5	+1.8	-1.7	+0.7	-3.3	+1.4	-2.0	-1.8	-1.5	-6.6	-2.4

TABLE V.—Departures from normal of the annual mean excess of sun over shade temperature for each year of the period 1890-1903.

STATION.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.
	°	°	°	°	°	°	°	°	°	°	°	°	°	°
Simla	+1.6	+2.1	+1.8	+1.2	-0.2	+0.8	-0.2	-1.5	+0.6	+2.3	-3.5	-1.6	-3.4	-5.1
Lahore	+3.3	+2.6	+1.7	+1.2	+0.4	+0.3	+0.1	+0.3	-0.1	-1.8	-1.4	-2.9	-3.2	-2.6
Jodhpur	?	?	?	?	?	?	?	+1.7	+0.5	-0.9	-0.6	-0.5	-0.3	-0.3
Allahabad	+0.9	+0.9	-0.3	-0.1	+0.3	-0.2	+0.6	+1.1	-0.4	-0.7	-0.6	-0.4	-0.7	-0.1
Calcutta (Alipore)	+2.1	+2.0	+2.4	+1.6	+1.6	+1.4	+0.3	-1.6	+0.3	-2.0	-3.6	-2.6	-2.0	-2.0
Bombay	+1.3	-0.2	+0.2	+0.8	+0.2	+0.5	+0.8	+0.9	-0.6	-1.3	-1.2	-0.9	-1.1	-1.8
Leh	?	+4.8	+3.0	0	+0.9	+0.1	-0.6	0	-2.7	-0.6	-2.5	-0.6	-1.8	-2.4
Aden	+4.0	+4.8	+3.7	+0.9	+0.2	+0.5	-2.5	-4.7	-4.5	-0.9	-2.3	+0.7	?	?

Nocturnal Radiation.

It was stated in the Annual Report of 1890 that the observations of the terrestrial radiation thermometers in India are nearly as unsatisfactory as those of the solar radiation thermometers. Observations of these instru-

ments were recorded during the year 1903 at the following stations:—

Srinagar. Jodhpur. Bombay.
Simla. Allahabad. Leh.
Lahore. Calcutta (Alipore). Aden.

The following table, TABLE VI, gives the average data of past years for the above stations; TABLE VII, the departure from the normal, and TABLE VIII the mean annual departure data for the past fourteen years.

TABLE VI.—Average depression of mean monthly and annual nocturnal radiation temperatures below mean minimum shade temperatures.

STATION.	Number of years observations used.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
		°	°	°	°	°	°	°	°	°	°	°	°	°
Srinagar	5—10	8.3	8.7	9.5	7.6	8.2	7.3	6.8	6.3	12.2	11.0	11.3	12.0	9.1
Simla	13—14	4.8	3.5	3.7	6.1	4.4	3.6	3.0	2.1	3.5	4.4	4.6	4.5	4.0
Lahore	26—27	9.3	9.1	8.6	9.0	8.6	6.0	3.8	4.1	6.2	9.4	10.3	9.5	7.8
Jodhpur	6—8	9.9	9.5	9.5	8.2	5.2	2.5	1.8	2.0	4.5	9.9	10.6	10.3	7.0
Allahabad	26—27	10.9	11.4	12.6	12.2	9.0	4.9	3.1	2.7	4.0	8.8	12.2	12.0	8.7
Calcutta (Alipore)	26—27	8.0	7.5	6.2	4.7	3.1	2.1	1.8	1.9	2.6	4.6	7.0	8.5	4.8
Bombay	28	10.0	9.4	8.3	6.7	4.7	2.8	2.1	2.4	3.1	6.5	9.7	10.6	6.4
Leh	19—21	10.3	9.1	10.7	11.3	11.0	11.4	10.0	10.8	12.0	14.7	15.1	12.5	11.6
Aden	19—22	2.9	2.3	2.7	3.2	3.4	3.6	2.2	2.2	3.5	3.8	4.3	4.0	3.2

TABLE VII.—Departures from the averages of Table VI of mean monthly and annual depression of nocturnal radiation temperatures in 1903.

STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
	°	°	°	°	°	°	°	°	°	°	°	°	°
Srinagar	+6.7	+2.5	+2.5	+1.5	+0.7	+3.2	+1.1	—0.6	—4.2	—3.2	—4.5	—5.5	0
Simla	—2.3	—1.1	—1.2	—2.7	—1.0	—1.3	—0.7	0	—1.0	—1.0	—1.2	—1.0	—1.2
Lahore	—0.4	0	—1.0	—0.3	—0.1	+0.9	+0.4	+0.4	—0.4	+1.0	+2.4	+1.7	+0.5
Jodhpur	—4.4	—0.6	—2.3	—0.4	+3.6	—1.0	—0.3	—0.1	—0.9	—1.2	+0.6	+0.1	—0.6
Allahabad	+1.4	+1.2	+0.3	+1.0	+1.9	—0.5	+0.7	0	—0.2	—2.5	+1.4	+2.7	+0.6
Calcutta (Alipore)	—3.3	—2.5	—2.4	—1.6	—0.8	—0.7	—0.3	—0.5	—0.9	—2.1	—2.9	—2.9	—1.7
Bombay	—2.4	—1.9	—1.5	—0.3	—0.6	—0.1	—1.1	—0.5	—0.8	—1.4	—1.5	—2.1	—1.2
Leh	—2.7	+1.8	?	—2.2	—0.3	—0.4	—1.9	—1.8	—1.8	+0.2	—0.4	—0.3	?
Aden	+3.3	+4.1	+3.4	+3.0	+3.4	+3.1	+3.8	+2.3	+3.4	+3.8	+5.2	+13.8	+4.4

TABLE VIII.—Departures from normal of the mean annual depression of nocturnal radiation temperatures.

STATION.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.
	°	°	°	°	°	°	°	°	°	°	°	°	°	°
Simla	+0.1	—0.1	+1.0	—0.3	—0.7	?	—0.8	+0.8	—0.8	—0.1	+0.5	—0.2	+1.3	—1.2
Lahore	—1.2	—1.7	—0.9	—0.7	+0.7	+1.0	—0.3	—0.2	+1.0	+2.0	+2.2	+2.0	—1.0	+0.5
Jodhpur	?	?	?	?	?	?	?	+0.1	0	—0.1	—0.5	—0.1	+1.1	—0.6
Allahabad	—0.9	—0.6	0	—1.3	—1.2	+0.2	+1.0	+0.1	+1.2	+1.6	—0.9	+0.5	—1.1	+0.6
Calcutta (Alipore)	—0.3	+0.1	—0.1	—0.5	—0.1	+0.1	+0.4	+0.2	+0.2	—0.2	—2.2	—1.7	+0.7	—1.7
Bombay	+1.4	+2.5	+0.8	—1.0	—1.8	—1.2	+0.8	—0.3	—1.0	—0.6	—0.7	—1.1	—2.1	—1.2
Leh	+3.1	+3.4	+2.9	+0.4	—2.3	—2.8	—2.0	—2.4	—0.1	—0.4	—2.1	+0.7	—1.3	?
Aden	—0.4	—0.5	+0.1	+1.2	+1.1	—0.4	—0.8	—0.1	—0.3	—0.1	+1.9	?	—0.2	+4

Temperature of the ground.

Observations of the temperature of the ground were recorded during the year 1903 at five stations, Lahore, Jaipur, Dehra, Allahabad and Calcutta (Alipore).

The thermometers used for the purpose are verified standard mercurial thermometers with attached scales of porcelain, the scale being engraved also on the tube.

At Allahabad the thermometer at 9 feet is read at 14 hrs., and the remaining two at 6, 14 and 22 hrs. The Lahore thermometer at 6 feet and the Jaipur thermometers at 10, 20 and 45.6 feet are read at 10 hrs., the remaining thermometers at these places being read four times daily. At Calcutta and Dehra Dun all are read once a day, at 13 hrs. 45 min. and 15 hrs. respectively in the two places.

The thermometers below the surface have their bulbs protected with pointed copper shoes which rest on the ground at the bottom of a wooden tube, inserted to the specified depth and projecting six inches above the surface, the upper ends being closed by a cap of metal or wood. Those at depths of three and six feet are attached to the lower end of a stout wooden bar of about half the diameter

of the tube. Those at one foot have a brass ring attached to the top of the wooden frame by which they are lifted; and in all these the lower part of the frame around the bulb has been cut away, and the lower end fitted with the copper shoe above mentioned.

The average monthly data are here given at length, but a paper recently published by Mr. R. Ll. Jones (Meteorological Memoirs, Vol. XV., Pt. III., 1904) makes it clear that the whole system of measurement of under ground-temperatures is unsatisfactory: analysis on the lines developed by Lord Kelvin leads to inconsistent results. It may be that this is due to irregularities from percolation of rainfall as well as to imperfections in the mode of measurement.

Under these circumstances a table of departures from the average of past years is more likely to give correct indications than a table of absolute temperatures recorded. The number of years included in the averages in the different cases lies between 16 and 31.

TABLE IX.—Departures from normal of the mean monthly and annual temperatures of the air and of the ground in 1903.

		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
LAHORE.	Air . . .	+1.4	+2.6	-1.9	-2.6	-0.5	+4.2	+1.1	-1.1	+2.8	+3.9	+1.9	+0.9	+1.1
	Surface . .	-1.7	-0.5	-4.3	-5.2	-3.4	+1.9	-1.1	-0.9	-2.0	-0.3	-2.7	-4.8	-2.1
	1 foot deep .	+0.4	+0.2	-1.2	-3.5	-2.8	0	-1.1	-0.8	-1.2	+0.7	-1.4	-2.8	-1.1
	3 feet " .	+0.2	+0.2	-0.5	-2.9	-2.5	-0.5	-0.6	-0.8	-1.3	+0.4	-0.6	-1.7	-0.9
	6 " " .	-0.5	-0.1	+0.1	-1.4	-1.5	-1.1	-0.5	-0.8	-1.1	-0.5	-0.6	-1.2	-0.8
JAIPUR.	Air . . .	+1.1	+1.4	-3.4	-2.0	+0.5	+5.7	+4.0	+0.9	+1.0	+2.0	-0.7	-0.3	+0.9
	Surface . .	-0.7	-0.8	-4.5	-2.0	+0.3	+7.2	+4.8	+0.6	-0.3	+0.7	-2.2	-4.6	-0.1
	4 inches deep .	+1.0	-0.8	-3.7	-3.7	-1.4	+6.0	+4.4	+0.8	+1.1	+0.7	0	-0.2	+0.4
	1 foot " .	+2.1	-0.1	-3.3	-4.0	-2.2	+3.4	+3.1	+0.2	+1.2	+2.0	+0.6	+0.5	+0.3
	3 feet " .	+0.6	-0.1	-1.2	-2.0	-0.9	+1.3	+2.4	+0.4	+1.2	+1.4	+0.2	-0.1	+0.3
	10 " " .	+2.3	+1.7	+0.6	-1.3	-2.0	-1.4	+0.2	+0.5	+0.6	+1.0	+1.8	+2.2	+0.5
DEHRA.	20 " " .	+2.7	+2.3	+2.2	+1.7	+1.0	+0.1	+0.1	+0.3	+0.4	+0.4	+0.6	+0.9	+1.1
	45.6 " " .	+0.8	+0.9	+0.8	+0.8	+0.8	+0.8	+0.7	+0.8	+0.7	+0.8	+0.7	+0.7	+0.8
	Air . . .	-1.3	-0.4	-2.8	-1.5	-0.4	+2.5	+2.8	-1.3	-0.4	+0.2	-1.3	-1.1	-0.4
	1.1 feet deep .	-0.3	+0.2	-0.4	+1.1	+3.2	+6.1	+4.5	+0.7	+0.4	+1.6	+0.9	+0.6	+1.6
	3.2 " " .	+0.2	+0.2	+0.4	+0.2	+2.0	+3.8	+3.6	+0.8	+0.4	+1.7	+1.1	+1.3	+1.3
	6.4 " " .	+0.6	+1.5	+0.3	-0.6	+0.2	+1.1	+1.9	+0.9	+0.5	+0.7	+1.2	+1.7	+0.8
	12.8 " " .	+0.2	+0.4	+0.3	+0.1	+0.3	+0.7	+0.7	+0.8	+0.6	+0.6	+0.8	+0.5	+0.5
	25.6 " " .	+0.4	+0.5	+0.5	+0.4	+0.3	+0.3	+0.2	0	0	+0.5	+0.5	+0.6	+0.4

TABLE IX.—*Departures from normal of the mean monthly and annual temperatures of the air and of the ground in 1903—concluded.*

		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
		°	°	°	°	°	°	°	°	°	°	°	°	°
ALLAHABAD.	Air . . .	+0.9	-1.7	-2.4	-2.9	+1.7	+3.8	+7.0	+0.7	0	-1.6	-2.3	-1.8	+0.1
	Surface .	+0.1	-0.3	0	-0.2	+2.4	+7.1	+10.1	+3.4	+2.5	-1.7	-0.9	-1.3	+1.8
	1 foot deep .	+0.7	0	+0.1	-0.8	+1.1	+3.9	+7.6	+1.9	+0.1	-1.7	-1.2	-2.2	+0.8
	3 feet " .	+0.3	+0.2	+0.3	-0.7	+0.6	+2.0	+5.0	+2.8	+0.1	-0.8	-0.6	-1.2	+0.7
	9 " " .	+1.1	+0.2	+0.3	+0.4	+0.3	+0.5	+1.3	+1.7	+1.0	+0.6	+0.2	-0.2	+0.6
CALCUTTA (ALIPORE).	Air . . .	+1.5	+0.1	+0.4	+1.2	+2.9	+1.2	+1.5	+0.4	-0.1	+0.3	+0.1	-0.9	+0.7
	Surface .	+5.6	+0.9	-2.6	-3.0	+5.8	+0.4	-1.4	-2.8	-3.0	-2.2	-0.9	?	?
	1 foot deep .	+2.1	+1.3	+1.2	-0.2	+2.0	+0.7	+0.3	-0.5	-0.6	-0.4	+0.6	+1.1	+0.6
	3 feet " .	+1.5	+1.0	+0.9	-0.5	+0.9	+0.5	0	-0.5	-0.6	-0.7	-0.3	+0.6	+0.2
	6 " " .	+1.1	+1.0	+1.2	+0.5	+0.4	+0.1	-0.2	-0.4	-0.6	-0.7	-0.6	+0.1	+0.2

Temperature.

The methods of exposing the thermometers at observatories in India and of deducing the daily and monthly means from the observed readings of the instruments are described in pages 18-19 of the Annual Report for 1890.

The departures from normal of the mean temperature of each month given in Table II of the monthly reviews are deduced by a comparison of the actual monthly means with the normal monthly means of average monthly temperatures of 87 stations in India and Ceylon, etc., given in pages 19 to 22 of the Annual Report for the year 1890. Average data for 134 stations will also be found in pages 39 to 42 of the Annual Report for the year 1887.

Average or normal monthly temperatures of 82 second class stations, based on the whole of the data up to December 1896, were given in Table I of the Annual Summary for 1896.

The departures obtained by a comparison of these normal means with the actual monthly means in Table II of the monthly weather reviews for the year are given in Table X.

The mean departures given in Table XI of the Geographical Summary are derived from the departure data of Table II of the monthly weather reviews of the year 1903.

In Table I, published in each Monthly Review, the mean temperature of the day is calculated, as in the Daily Weather Report, by the formula:—daily mean = $\frac{\text{maximum} + \text{minimum}}{2}$.

It differs from the true daily mean by amounts varying slightly with the season. The departures of the daily or monthly actual means obtained by this method from normal daily or monthly means similarly calculated, usually differ very little from those obtained by the more laborious

computation of true daily means and the comparison of these with normal true daily means. In Table I of the Monthly Weather Reviews of the year 1903 are given the departures from normal of the monthly means of daily maximum and minimum temperatures, as well as the departures of the monthly means of daily mean temperature given by the formula $\frac{1}{2}(\text{maximum} + \text{minimum})$.

Normal monthly mean maxima and minima temperatures of 94 stations, calculated from the observations of the eleven years' period, 1878-1888, were given in the Annual Summary for 1891. The data for the years 1889-1893 were given in the 1894 Annual Summary, Tables I and II.

The additional data for the years 1894-1899 have been utilized to obtain what are probably slightly more accurate means than those published in the 1894 Annual Summary.

Tables XI and XII (a), XII (b) and XII (c) give summaries of the temperature departure data for each month of the year 1903 and for the year. In the first table (Table XI) the same division has been adopted as that employed in the Annual Reports from 1881 to 1890. This enables an exact comparison to be made of the temperature data of the year 1903 with those of previous years given in the Annual Reports. In the second set of tables [Table XII (a), XII (b) and XII (c)] the departure data are given for the eleven meteorological provinces into which the empire is divided for the purpose chiefly of comparing meteorological and health statistics, and in the last table (Table XIII) the data are given for 55 of the 57 smaller divisions or areas into which India is subdivided with a view to the comparison of meteorological and crop statistics;—

TABLE X.—Departures from normal of monthly and annual mean air temperatures in 1903.

METEOROLOGICAL PROVINCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
BURMA COAST AND BAY ISLANDS.	Port Blair	+1.1	+1.7	-0.6	+1.4	+1.4	+0.1	+0.2	+0.9	+0.4	+0.2	-0.4	0	+0.5
	Rangoon	0	+0.7	-0.6	+0.7	+0.9	0	+1.1	-0.4	+0.6	-0.2	+1.2	-2.4	+0.1
	Diamond Island	+1.3	+0.6	-0.1	+0.9	+0.5	+1.0	+1.3	+0.7	+1.0	-0.1	+1.5	-0.8	+0.7
	Cocos Island	?	?	?	+2.5	+2.2	+1.0	-0.6	+0.1	+1.6	+0.7	+0.6	+0.9	?
	Akyab	?	?	+0.6	+1.9	+1.6	+0.2	+0.8	-0.9	-0.7	+0.2	-0.2	-1.6	?
BENGAL AND ORISSA.	Chittagong	+0.7	-0.7	-0.7	+1.3	+1.7	+0.5	+1.9	+0.3	-0.4	+1.3	+0.3	-1.3	+0.4
	Ca'cutta (Alipore)	+1.5	+0.1	+0.4	+1.2	+2.9	+1.2	+1.5	+0.4	-0.1	+0.3	+0.1	-0.9	+0.7
	Saugor Island	+0.8	-0.6	+0.5	+0.5	+1.5	+0.8	+2.2	+1.1	+0.4	+0.5	+0.5	-0.8	+0.6
	False Point	+1.2	-1.8	+1.0	+0.1	+0.2	+0.4	+1.0	+0.6	0	+0.4	+0.1	-1.5	+0.1
GANGETIC PLAIN AND CHOTA NAGPUR.	Hazaribagh	+2.0	-0.7	+0.6	+0.3	+2.3	+2.9	+3.1	+1.1	+0.9	+0.5	-1.6	-0.8	+0.9
	Darbhanga	-0.8	0	-0.6	-0.5	+3.5	-2.4	+1.0	+0.1	+0.3	+0.3	-1.9	-1.4	-0.2
	Allahabad	+0.9	-1.7	-2.4	-2.9	+1.7	+3.8	+7.0	+0.7	0	-1.6	-2.3	-1.8	+0.1

TABLE X.—Departures from normal of monthly and annual mean air temperatures in 1903—continued.

METEOROLOGICAL PROVINCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
		°	°	°	°	°	°	°	°	°	°	°	°	°
UPPER SUB-HIMALAYAS.	Dehra Dun	-1'3	-0'4	-2'8	-1'5	-0'4	+2'5	+2'8	-1'3	-0'4	+0'2	-1'3	-1'1	-0'4
	Roorkee	-1'6	-1'2	-1'6	-2'2	-0'4	+2'7	+4'0	-1'0	-0'3	+0'6	-1'5	-2'0	-0'4
	Meerut	0	+0'1	-1'4	-2'2	-0'3	+3'3	+3'8	-0'3	+0'4	+1'0	-0'1	-0'9	+0'3
	Lahore	+1'4	+2'6	-1'9	-2'6	-0'5	+4'2	+1'1	-1'1	+2'8	+3'9	+1'9	+0'9	+1'1
	Ludhiana	+0'8	+1'8	-2'3	-1'9	+0'8	+4'7	+3'2	-0'1	+0'3	+2'1	+0'9	-1'0	+0'8
INDUS VALLEY AND NORTH-WEST RAJPUTANA.	Peshawar	-0'5	+3'9	-4'5	-4'6	-3'9	+1'6	-0'3	+1'6	+2'1	+2'7	+1'7	-1'2	-0'1
	Jacobabad	-2'9	+1'4	-4'8	-4'8	-1'1	+2'8	+1'0	+2'9	+2'6	+3'3	+1'3	-0'8	+0'1
	Kurrachee	-1'8	+0'1	-2'2	-0'9	+2'2	+2'2	+3'9	+2'5	+2'7	+2'2	-0'2	-1'2	+0'8
EAST RAJPUTANA, CENTRAL INDIA AND GUJARAT.	Jaipur	+1'1	+1'4	-3'4	-2'0	+0'5	+5'7	+4'0	+0'9	+1'0	+2'0	-0'7	-0'3	+0'9
	Deesa	-0'9	-1'3	-4'3	-1'1	+2'4	+2'9	+3'5	+1'6	+2'5	+3'9	-1'2	-1'3	+0'6
DECCAN	Belgaum	+0'3	-1'3	-0'6	+0'8	-0'4	+1'6	+0'3	+0'5	+1'2	-0'7	-0'6	-0'5	+0'1
	Sholapur	+1'2	-0'8	-0'9	+0'6	-1'3	+2'5	-0'2	-0'2	+0'3	-0'3	-0'6	-0'7	0
	Akola	+2'2	-1'4	-1'0	-0'3	-2'3	+5'2	+0'3	+0'8	+0'2	0	-1'6	+0'1	+0'2
	Buldana	-0'4	-1'2	-2'0	-0'5	-1'1	+4'1	+0'6	+0'3	0	-0'1	-0'9	+0'1	-0'1
	Khandwa	+1'7	-0'3	-1'7	+0'1	0	+5'1	+2'5	+1'2	-0'7	+1'0	-1'2	+0'5	+0'7
	Nagpur	+2'7	-1'2	-0'2	+1'2	-3'0	+3'2	+1'1	+0'8	+0'6	-0'1	-1'4	+0'2	+0'3
	Hyderabad (Deccan)	+2'1	+0'5	+2'5	+1'0	-2'1	+4'7	-1'7	+0'4	+1'0	-0'3	-0'5	-0'5	+0'6
WEST COAST	Bombay	+0'3	-1'1	-2'4	-1'3	-1'2	-0'1	0	+0'4	+1'0	0	-1'1	-1'0	-0'5
	Karwar	+0'9	-0'2	-2'2	-1'2	-0'2	+0'7	+0'3	+0'3	+1'0	+0'3	-0'6	-0'2	-0'1
SOUTH INDIA	Salem	+1'2	+2'1	+2'4	+1'0	-0'2	+0'3	-0'1	+0'1	-0'5	+0'4	-0'5	-0'8	+0'5
	Chitaldroog	+1'1	+0'3	+0'8	+2'4	+0'2	+1'8	+0'8	+0'4	+0'4	-1'1	-1'3	-1'5	+0'4
	Bangalore	+2'8	+1'8	+2'2	+1'2	+0'9	+1'5	+0'9	+0'6	+0'6	+0'2	-1'2	-0'7	+0'9
	Hassan	+1'3	+0'7	+0'5	+1'2	+1'2	+2'2	+0'4	+1'2	+0'9	-0'2	-1'5	-1'3	+0'6
	Mysore	+1'7	+1'5	+0'8	+1'8	+0'2	+0'9	-0'1	-0'2	-0'4	-0'8	-2'0	-1'4	+0'2
	Madras	+1'1	+1'9	-0'2	-0'9	-2'2	-1'1	-0'7	-0'5	-1'8	-0'2	-1'2	-0'9	-0'6
	Bellary	+2'4	+0'9	+1'2	+1'0	-0'5	+1'6	0	-0'3	+0'5	-0'7	-1'7	-0'7	+0'3
HILL STATION, BALUCHISTAN.	Quetta	-5'1	+1'6	-8'3	-5'2	-2'5	-0'4	-0'9	+1'7	+0'3	+1'1	-0'2	-3'5	-1'8
HILL STATIONS, NORTHERN INDIA.	Leh	-2'1	-0'7	-7'6	-4'9	-0'5	-3'4	-5'6	-2'3	+2'5	+3'0	-0'5	-0'2	-1'9
	Srinagar	+1'7	+6'4	-2'1	-4'8	-3'8	-2'2	-5'7	0	+3'7	+3'7	-0'1	-1'1	-0'4
	Simla (Ridge)	-1'8	-0'6	-5'8	-3'9	-2'3	+1'4	+1'8	-0'9	-0'6	+0'1	-1'0	-0'3	-1'2
	Chakrata	-0'1	+2'4	-4'7	-2'0	-0'2	+1'0	+2'3	-0'3	+0'3	+0'9	+0'5	+1'5	+0'1
	Ranikhet	-1'5	-1'1	-4'3	-1'2	+2'3	+1'2	+3'1	+0'1	+0'1	-0'3	-0'6	+0'6	-0'1
	Katmandu	-3'1	-1'7	-1'1	+0'9	+1'0	-1'4	+0'2	-1'2	-0'5	-0'8	-1'1	-3'3	-1'0
	Darjeeling	-0'2	-0'3	+0'6	+3'0	+2'2	-0'2	+1'2	+0'7	+2'0	+1'9	+0'6	+0'7	+1'0

TABLE X.—Departures from normal of monthly and annual mean air temperatures in 1903—concluded.

METEOROLOGICAL PROVINCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
		°	°	°	°	°	°	°	°	°	°	°	°	°
HILL STATIONS, CENTRAL INDIA.	Mount Abu	+1.1	-1.3	-5.0	-2.7	+1.2	+3.4	+3.9	+0.9	+0.9	+1.8	-1.5	-0.7	0
	Pachmarhi	+2.0	-0.8	-1.2	+0.1	-1.7	+5.6	+4.1	+1.6	+0.2	+0.4	-2.1	-0.3	+0.7
	Chikalda	+0.2	-1.4	-1.7	+0.1	-1.2	+4.6	+2.3	+1.2	0	-0.7	-1.5	-0.2	+0.1
EXTRA INDIA	Aden	-1.0	-0.9	-0.3	-0.8	+0.3	+0.8	+2.4	+3.2	+1.0	+1.5	+0.4	-0.5	+0.5
	Perim	-0.8	-1.3	-0.7	-0.9	-0.7	-1.0	-0.2	+1.1	-0.1	+1.4	+0.7	-1.0	-0.3
	Zanzibar	+0.6	-0.7	+1.6	+0.8	+1.5	+1.8	+1.4	+1.0	+0.1	+0.5	+1.6	-0.6	+0.8
	Port Victoria (Seychelles)	-0.6	-0.8	+0.7	-1.1	-1.2	-0.9	-1.2	-1.4	-1.8	-1.3	-2.6	-1.2	-1.1
	Mauritius (Pamplemousses)	0	+0.3	+1.5	0	+0.1	+1.1	+0.5	+0.4	-1.0	-1.8	-1.5	-2.0	-0.2

TABLE XI.—Geographical summary of the temperature data of Table II in the Monthly Weather Reviews of 1903.

METEOROLOGICAL AREA.	Number of stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
		°	°	°	°	°	°	°	°	°	°	°	°	°
North-West Himalayas	5	-0.8	+1.3	-4.9	-3.4	-0.9	-0.4	-0.8	-0.7	+1.2	+1.5	-0.3	+0.1	-0.7
Sikkim Himalayas and Nepal.	2	-1.7	-1.0	-0.3	+2.0	+1.6	-0.8	+0.7	-0.3	+0.8	+0.6	-0.3	-1.3	0
Punjab Plains . . .	3	+0.6	+2.8	-2.9	-3.0	-1.2	+3.5	+1.3	+0.1	+1.7	+2.9	+1.5	-0.4	+0.6
Gangetic Plain . . .	5	-0.6	-0.6	-1.8	-1.9	+0.8	+2.0	+3.7	-0.4	0	+0.1	-1.4	-1.4	-0.1
Western Rajputana . .	4	-1.7	-0.3	-4.1	-2.4	+1.2	+2.8	+3.1	+2.0	+2.2	+2.8	-0.4	-1.0	+0.4
Eastern Rajputana and Central India.	1	+1.1	+1.4	-3.4	-2.0	+0.5	+5.7	+4.0	+0.9	+1.0	+2.0	-0.7	-0.3	+0.9
Nerbudda Valley . . .	1	+1.7	-0.3	-1.7	+0.1	0	+5.1	+2.5	+1.2	-0.7	+1.0	-1.2	+0.5	+0.7
Chota Nagpur	1	+2.0	-0.7	+0.6	+0.3	+2.3	+2.9	+3.1	+1.1	+0.9	+0.5	-1.6	-0.8	+0.9
Lower Bengal	2	+1.2	-0.3	+0.5	+0.9	+2.2	+1.0	+1.9	+0.8	+0.2	+0.4	+0.3	-0.9	+0.7
Orissa	1	+1.2	-1.8	+1.0	+0.1	+0.2	+0.4	+1.0	+0.6	0	+0.4	+0.1	-1.5	+0.1
Central Provinces South and Berar.	5	+1.3	-1.2	-1.2	+0.1	-1.9	+4.5	+1.7	+0.9	+0.2	-0.1	-1.5	0	+0.2
Konkan	2	+0.6	-0.7	-2.3	-1.3	-0.7	+0.3	+0.2	+0.4	+1.0	+0.2	-0.9	-0.6	-0.3
Deccan, Hyderabad and Mysore.	8	+1.6	+0.5	+0.8	+1.3	-0.2	+2.1	+0.1	+0.3	+0.6	-0.5	-1.2	-0.9	+0.4
East Coast and Carnatic	2	+1.2	+2.0	+1.1	+0.1	-1.2	-0.4	-0.4	-0.2	-1.2	+0.1	-0.9	-0.9	-0.1
Arakan and Pegu . . .	3-4	+0.7	+0.2	-0.2	+1.2	+1.2	+0.4	+1.3	-0.1	+0.1	+0.3	+0.7	-1.5	+0.4
Bay Islands	1-2	+1.1	+1.7	-0.6	+2.0	+1.8	+0.6	-0.2	+0.5	+1.0	+0.5	+0.1	+0.5	+0.8
Extra Tropical India . .	24	-0.3	+0.3	-2.6	-1.7	+0.5	+1.8	+1.9	+0.3	+1.0	+1.4	-0.4	-0.7	+0.1
Tropical India	22-24	+1.2	0	-0.1	+0.7	-0.3	+1.8	+0.6	+0.4	+0.3	-0.1	-0.7	-0.7	+0.3
Whole India	46-48	+0.4	+0.2	-1.4	-0.5	+0.1	+1.8	+1.2	+0.3	+0.6	+0.7	-0.6	-0.7	+0.2

TABLE XII (a).—Departure of the mean monthly maximum temperature from the normal in 1903 in the eleven meteorological provinces of India.

METEOROLOGICAL PROVINCE.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
Burma Coast and Bay Islands.	0	0	0	0	0	0	0	0	0	0	0	0	0
Burma Inland . . .	+0.1	-0.3	-0.5	+1.2	+1.6	+0.4	+0.6	-0.1	+0.2	-1.2	0	-1.7	0
Assam	-0.9	-1.8	-0.9	+3.0	+2.8	-0.7	+2.0	-0.9	-0.4	-1.3	-1.1	-1.2	-0.1
Bengal and Orissa . .	-1.4	-0.9	-1.0	+2.0	+1.5	-1.0	+0.6	-1.0	-0.3	+1.3	-0.1	+0.1	0
Gangetic Plain and Chota Nagpur.	-0.4	-1.4	-1.2	+2.3	+3.5	+0.6	+1.6	+0.3	-0.4	+0.1	-0.8	-0.8	+0.3
Upper Sub-Himalayas .	+0.8	-0.3	-0.5	-1.0	+1.5	+3.1	+6.2	+0.7	-0.6	-3.2	-1.3	-0.8	+0.4
Indus Valley and North-West Rajputana.	-0.1	+1.3	-4.1	-4.5	-1.7	+4.4	+3.9	-0.3	-0.7	+0.3	0	-0.7	-0.2
East Rajputana, Central India and Gujarat.	-0.4	+1.9	-5.2	-6.2	-2.5	+2.8	+0.8	+1.3	+1.3	+2.2	+0.2	-0.1	-0.3
Deccan	-0.6	-0.7	-3.5	-3.0	+0.1	+4.7	+4.6	+0.2	-0.9	-1.3	-0.9	-0.2	-0.1
West Coast	+0.4	-1.0	0	+0.2	-2.4	+5.6	+1.4	+0.3	-0.8	-2.0	-1.3	+0.4	+0.1
South India	-0.7	-0.2	-1.4	-1.0	-0.1	+0.6	-0.3	0	-0.1	-0.6	-1.4	-1.0	-0.5
	0	0	+1.1	+0.8	-2.6	+0.7	-1.3	-1.0	-1.4	-0.7	-1.6	-1.6	-0.6

TABLE XII (b).—Departure of the mean monthly minimum temperature from the normal in 1903 in the eleven meteorological provinces of India.

METEOROLOGICAL PROVINCE.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
Burma Coast and Bay Islands.	0	0	0	0	0	0	0	0	0	0	0	0	0
Burma Inland . . .	+0.9	+1.5	-0.1	+1.7	+1.2	+0.4	+0.6	+0.2	+0.6	+1.0	+1.5	-1.0	+0.7
Assam	-0.5	+0.1	-0.6	+1.1	+0.9	-0.2	+0.7	-0.1	+0.1	+0.7	+3.0	-1.2	+0.3
Bengal and Orissa . .	-2.6	-1.1	-1.3	-0.2	-0.3	-0.6	+0.4	-0.3	+0.5	+1.5	+1.0	-1.3	-0.4
Gangetic Plain and Chota Nagpur.	+0.7	-0.8	-0.1	0	+1.1	-0.6	+0.6	+0.2	0	+1.3	+0.5	-1.4	+0.1
Upper Sub-Himalayas .	0	-1.9	-1.0	-0.4	-0.3	+1.3	+2.5	+0.3	+0.8	+2.4	-1.0	-1.5	+0.1
Indus Valley and North-West Rajputana.	-1.0	-0.2	-0.8	-1.9	-1.1	+2.7	+1.8	+0.7	+2.6	+3.1	+0.6	-1.3	+0.4
East Rajputana, Central India and Gujarat.	-3.0	-0.8	-3.3	-4.2	-1.0	+1.8	+0.2	+0.9	+1.8	+2.4	-0.4	-2.6	-0.7
Deccan	+0.5	-1.9	-2.7	-2.9	+0.2	+2.8	+2.4	+0.9	+1.5	+2.0	-2.5	-2.4	-0.2
West Coast	+3.0	-1.5	-1.5	-0.5	-1.0	+2.2	+1.1	+0.4	+1.0	+0.5	-2.0	-1.6	0
South India	+2.2	-0.5	-1.9	-0.9	-0.2	+0.7	+0.6	+0.6	+0.4	-0.3	-0.8	-0.5	-0.1
	+2.8	+1.9	+0.5	+0.1	-0.9	+0.4	-0.1	+0.1	+0.4	+0.2	0	-0.4	+0.4

TABLE XII (c).—Departure of the mean monthly temperature from the normal in 1903 in the eleven meteorological provinces of India.

METEOROLOGICAL PROVINCE.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
Burma Coast and Bay Islands.	0	0	0	0	0	0	0	0	0	0	0	0	0
Burma Inland . . .	+0.5	+0.6	-0.3	+1.5	+1.4	+0.4	+0.6	0	+0.4	-0.1	+0.8	-1.3	+0.4
Assam	-0.7	-0.9	-0.8	+2.0	+1.9	-0.5	+1.4	-0.5	-0.2	-0.3	+1.0	-1.2	+0.1
Bengal and Orissa . . .	-2.0	-1.0	-1.1	+0.9	+0.6	-0.8	+0.5	-0.7	+0.1	+1.4	+0.5	-0.6	-0.2
Gangetic Plain and Chota Nagpur.	+0.2	-1.1	-0.7	+1.2	+2.3	0	+1.1	+0.2	-0.2	+0.7	-0.2	-1.1	+0.2
Upper Sub-Himalayas .	+0.4	-1.1	-0.8	-0.7	+0.6	+2.2	+4.4	+0.5	+0.1	-0.4	-1.2	-1.2	+0.2
Indus Valley and North-West Rajputana.	-0.6	+0.6	-2.5	-3.2	-1.4	+3.6	+2.8	+0.2	+1.0	+1.7	+0.3	-1.0	+0.1
East Rajputana, Central India and Gujarat.	-1.7	+0.6	-4.3	-5.2	-1.7	+2.3	+0.5	+1.1	+1.6	+2.3	-0.1	-1.4	-0.5
Deccan	-0.1	-1.3	-3.1	-3.0	+0.2	+3.8	+3.5	+0.6	+0.3	+0.4	-1.7	-1.3	-0.1
West Coast	+1.7	-1.3	-0.8	-0.1	-1.7	+3.9	+1.3	+0.4	+0.1	-0.7	-1.7	-0.6	0
South India	+0.8	-0.4	-1.7	-1.0	-0.2	+0.6	+0.1	+0.3	+0.2	-0.5	-1.1	-0.8	-0.3
	+1.4	+1.0	+0.8	+0.5	-1.8	+0.6	-0.7	-0.5	-0.5	-0.3	-0.8	-1.0	-0.1

TABLE XIII.—Departures of the mean monthly and annual temperatures from the normal in 1903 in 55 of the 57 meteorological districts or divisions of India.

PROVINCE.	DIVISION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
BURMA	1. Tenasserim	+1.7	+1.4	+0.3	+1.2	+2.1	+0.8	+0.5	+0.4	+1.0	+0.2	+1.5	-0.8	+0.9
	2. Lower Burma Deltaic	+0.3	+0.3	-0.4	+1.8	+1.2	+0.2	+0.8	-0.1	+0.5	-0.5	+1.1	-1.1	+0.3
	3. Central Burma . . .	-1.4	-0.1	-0.8	+2.2	+0.8	-0.5	+0.8	-0.8	-0.2	-0.5	-0.1	-2.9	-0.3
	4. Upper Burma	-0.9	-1.1	-0.9	+2.1	+2.2	-0.3	+1.6	-0.5	-0.2	-0.3	+1.2	-0.9	+0.2
	5. Arakan	P	-1.3	+0.1	+1.4	+1.1	+0.6	+0.6	-0.6	-0.8	-0.1	-0.1P	-2.1	-0.1
	6. Eastern Bengal . . .	+0.1	-0.8	-1.0	+1.3	+2.2	-0.2	+0.9	-0.1	-0.5	+1.4	+0.7	-0.6	+0.3
	7. Assam, Surma	-1.6	-0.8	-1.2	+1.9	+1.6	-0.5	+0.8	-0.6	-0.9	+2.1	+1.2	-1.1	+0.1
	8. Do. Hills . . . . .	...	...	...	...	...	...	...	...	...	...	...	...	...
	9. Do. Brahmaputra . . .	-2.3	-1.2	-1.1	+0.5	+0.2	-1.0	+0.4	-0.7	+0.6	+1.1	+0.2	-0.3	-0.3
BENGAL AND ASSAM	10. Deltaic Bengal . . .	+0.7	-0.8	-0.5	+0.8	+2.0	+0.6	+1.5	+0.4	-0.3	+0.4	+0.5	-1.2	+0.3
	11. Central Bengal . . .	+0.2	-0.8	-1.1	+1.5	+3.3	-0.4	+1.2	+0.1	-0.3	+0.7	-0.4	-0.9	+0.3
	12. North Bengal	-1.0	-0.6	-1.0	+1.3	+2.4	-0.3	+1.0	-0.1	+0.3	+1.1	-1.1	-1.0	+0.1
	13. Bengal Hills	-0.8	-0.9	-0.1	+2.0	+1.0	-0.5	+1.0	+0.5	+1.3	+1.6	+0.5	+0.5	+0.5
	14. Orissa	+1.2	-2.5	+0.3	+0.8	+1.1	+0.5	+1.0	+0.7	-0.3	-0.1	-0.3	-1.8	+0.1
	15. Chota Nagpur	+1.6	-1.4	+0.5	-0.7	+0.2	+2.9	+2.5	+0.9	+0.3	-0.4	-1.8	-1.4	+0.3
	16. South Bihar	+0.6	-0.4	-1.0	+0.9	+2.5	+0.2	+5.1	+1.0	+0.5	+0.1	-1.4	-1.1	+0.6
	17. North Bihar	-1.1	-0.7	-1.0	+1.1	+3.6	-1.2	+1.0	-0.1	+0.3	+0.7	-1.4	-1.4	0

TABLE XIII.—Departures of the mean monthly and annual temperatures from the normal in 1903 in 55 of the 57 meteorological districts or divisions of India—continued.

PROVINCE.	DIVISION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
		0	0	0	0	0	0	0	0	0	0	0	0	0
UNITED PROVINCES OF AGRA AND OUDH.	18. United Provinces, East	+0.2	-1.9	-1.5	-1.5	+0.3	+3.6	+6.8	+0.9	-0.1	-0.6	-1.2	-1.3	+0.3
	19. South Oudh . . .	-0.1	-0.9	-1.1	-0.9	...	+2.2	+6.1	-0.4	-0.5	-0.8	-0.1	-1.3	+0.2
	20. North Oudh . . .	+0.3	-0.5	-0.3	-0.9 ²	-0.5	-0.5	+3.6	-0.3	+0.1	-0.6	-0.5	-0.6	-0.1
	21. United Provinces, Central.	+0.5	-1.2	-1.5	-1.9	-1.2	+5.0	+6.7	+0.5	-0.3	-0.6	-0.9	-0.9	+0.4
	22. United Provinces, West.	-0.1	-0.3	-1.9	-3.4	-1.5	+3.6	+4.8	0	+0.8	+0.3	-0.9	-1.0	0
	23. United Provinces, East Submontane.	-0.8	-1.1	-1.3	+0.4	+1.8	...	+1.4	-0.7	?	-1.0	-0.4	-1.1	-0.3
	24. United Provinces, West Submontane.	-0.7	-0.4	-1.7	-2.2	-0.6	+3.2	+4.3	-0.5	+0.3	+0.5	-0.6	-0.9	+0.1
	25. United Provinces, Hills	-1.2	-0.6	-4.7	-2.5	+0.3	+1.9	+3.2	+0.1	+0.5	+0.4	+0.3	+1.7	-0.1
PUNJAB . . .	26. South-East Punjab . . .	-0.8	-0.3	-2.8 ²	-3.0 ²	...	+3.5	+4.1	+0.1	+0.5	+0.4	-0.2	-1.8	+0.6
	27. South Punjab . . .	-1.4	?	-4.1	-5.2	-2.0	+3.5	-0.2	+0.5	+1.2	+1.7	+0.3	-1.7	-0.7
	28. Central Punjab . . .	+0.2	+1.5	-2.9	-4.4	-2.0	+3.1	+0.4	+0.6	+1.6	+2.6	+1.3	-0.5	+0.1
	29. Punjab Submontane . . .	-0.4	+1.5	-3.2	-3.1	-1.7	+4.1	+2.5	+0.8	+1.5	+3.3	+1.4	-0.8	+0.5
	30. Do. Hills . . .	-0.1	+1.2	-6.3	-5.7	-4.1	-1.5	-4.4	-2.0	+1.7	+2.0	-1.1	-0.1	-1.7
	31. West Punjab . . .	-1.2	+1.4	-4.0	-5.8	-3.7	+2.7	-1.6	+0.3	+1.5	+2.6	+0.2	-1.0	-0.7
NORTH-WEST FRONTIER PROVINCE.	32. North-West Frontier Province.	-0.6	+1.9	-4.8	-5.4	-4.5	+1.7	-1.0	-0.5	+0.4	+1.6	+1.2	-1.1	-0.9
BOMBAY AND MALABAR COAST DISTRICTS (MADRAS).	33. Malabar . . .	+1.9	+0.9	+0.2	+0.6	+0.1	+1.2	+0.3	+0.7	-0.6	-0.4	-1.2	-0.7	+0.3
	34. Madras South Central	+1.1	+1.5	+1.2	+1.0	-0.5	+0.5	-0.3	-0.7	-0.9	0	-0.8	-1.3	+0.1
	35. Coorg . . .	+0.3	-0.3	-0.5	+1.0 ²	-0.8	+1.1	...	+0.3	0	-1.4	-0.9	-0.4	-0.3
	36. Mysore . . .	+1.8	+0.5	+1.0	+0.9	-0.6	+1.1	0	-0.5	+0.3	-0.9	-1.3	-1.0	+0.1
	37. Konkan . . .	+0.1	-1.0	-2.6	-1.6	-0.4	+0.3	0	+0.1	+0.9	-0.6	-1.0	-0.8	-0.6
	38. Bombay Deccan . . .	+0.9	-1.4	-1.3	+0.2	-0.6	+2.1	-0.2	0	+0.6	-1.2	-1.1	-0.9	-0.2
	39. Hyderabad North . . .	...	...	...	...	...	...	...	...	...	...	...	...	...
	40. Khandesh . . .	+1.4	-0.9	-0.9	-0.6	-0.3	+3.5	+0.2	+0.8	+0.3	-0.5	-1.1	-0.4	+0.1
CENTRAL PROVINCES AND BERAR.	41. Berar . . .	+1.8	-2.1	-1.1	+0.6	-2.4	+4.8	+0.6	+0.4	-0.1	-0.5	-2.0	-0.2	0
	42. Central Provinces, West.	+1.8	-1.6	-2.1	-0.4	-2.1	+4.8	+2.8	+1.1	-0.3	-0.1	-1.8	-0.5	+0.1
	43. Central Provinces, Central.	+2.4	-1.7	-0.7	-0.6	-2.9	+4.3	+2.3	+0.4	-0.4	-0.6	-2.5	-0.4	0
	44. Central Provinces, East	+2.7	-2.4	+0.5	+0.7	-2.1	+3.9	+2.3	+0.5	-0.3	-1.0	-2.0	-1.3	+0.1
BOMBAY (NORTH)	45. Gujarat . . .	-0.3	-0.9	-3.3	-2.3	+1.3	+2.5	+1.8	+0.3	-0.1	+1.2	-2.1	-0.6	-0.2
	46. Kathiawar and Cutch	-1.5	-1.7	-3.8	-2.4	+0.9	+1.3	+1.8	+0.8	+0.8	+0.5	-1.5	-1.7	-0.5
	47. Sind . . .	-2.3	+0.4	-3.8	-4.6	+0.6	+1.9	+2.3	+2.8	+2.5	+2.7	+0.2	-1.4	+0.1
	48. Baluchistan Hills . . .	-3.9	+1.2	-8.3	-7.8	-5.6	+0.1	-1.7	-0.7	-0.3	+1.8	-1.0	-3.3	-2.5

TABLE XIII.—Departures of the mean monthly and annual temperatures from the normal in 1903 in 55 of the 57 meteorological districts or divisions of India—concluded.

PROVINCE.	DIVISION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
		0	0	0	0	0	0	0	0	0	0	0	0	0
RAJPUTANA AND CENTRAL INDIA.	49. Central India, East .	+0.9	-1.6	-2.1	-2.5 ^p	-0.6	+5.5	+5.3	+0.9	-0.2	-1.3	-2.4	-1.4	+0.3
	50. Rajputana East, Central India West.	+0.2	-1.0	-3.5	-3.9	-0.2	+4.7	+3.7	+0.6	+0.9	+1.4	-1.5	-1.5	-0.1
	51. West Rajputana .	-2.0	-1.6	-4.9	-5.0	+0.5	+4.4	+2.7	+1.2	+1.7	+2.2?	-1.9	-2.2	-0.6
MADRAS . . .	52. East Coast North .	+1.5	-0.4	+2.0	+0.4	-1.5	+0.7	-0.9	-0.7	-0.5	+0.2	-0.8	-1.5	-0.1
	53. Hyderabad South .	+1.4	-0.5	+0.8	...	-1.8	+2.9	-1.4	-0.6	+0.4	-1.2	-1.3	-0.2	-0.1
	54. Madras Central .	+1.5	+0.4	+1.0	+0.6	-1.6	+1.4	-0.9	-0.4	+0.2	-0.6	-1.3	-1.1	-0.1
	55. East Coast Central .	+1.3	+1.0	+1.0	-0.1	-3.4	-0.4	-1.6	-0.4	-0.1	-0.4	-1.8	-1.2	-0.5
	56. East Coast South .	+1.5	+2.3	+0.2	-0.1	-2.9	-0.6	-0.9	-0.4	-1.6	+0.2	-0.2	-0.6	-0.3
	57. Madras South .	+0.8	+0.8	+0.5	+0.1	-1.4	+0.9	-0.7	-1.1	-1.3	+0.1	+0.7	-1.0	-0.1

In the discussion of the meteorology of India, during the year 1903, the year is divided into four seasons according to the following arrangement:—

- 1st.—The cold weather period, including the months of January and February.
- 2nd.—The hot weather period, including the months of March, April and May.
- 3rd.—The period of the south-west monsoon rains proper, including the months of June, July, August and September.
- 4th.—The period of the retreating south-west monsoon, including the months of October, November and December.

The following is a summary of the most important temperature conditions during the year:—

I.—The Cold weather period.—During January three storms affected the weather in northern India but they were of slight intensity and the accompanying precipitation was restricted chiefly to north-western India. Weather was on the other hand more disturbed than usual in Bengal, upper Assam, Madras and the west Deccan.

Temperature was lower than usual over the greater part of the country at the beginning of the month but increased steadily during the next four days and on the 5th was generally above the normal except in the Indus valley, Assam, Burma, and parts of the Central Provinces. This distribution held with slight modifications until the 12th when a decrease of temperature appeared in Baluchistan, and north-west India. This fall extended over the Punjab and Sind on the 12th, reached Gujarat, Rajputana, and the west of the United Provinces on the 13th, Central India and the east of the United Provinces on the 14th, and extended right across northern India on the 15th. From the 13th to the 20th there occurred light showers of rain over north-east India, and on the 16th and 17th there was some snow in Kashmir and Baluchistan. This precipitation helped to emphasize the already existing

depression of temperature over northern India, so that from the 15th to 20th the mean temperature was steadily low there. During this period temperature was steadily excessive over the Peninsula and the Central Provinces, the excess being shown mainly in night temperature.

After the 20th, the weather became unsettled in north-west India owing to depressions advancing from Persia eastward to the Indian frontier. On the 20th and 21st temperature rose briskly in Baluchistan, and on the 22nd this rise spread over north-west India; such changes ordinarily precede the advance of a disturbance from the westward. On the 21st, 22nd, and 23rd, rain and snow from the advancing depression occurred over Baluchistan, the north-west frontier and Kashmir, and on the 23rd a fresh cold wave appeared in the Indus valley. On this day temperature was below the normal over Baluchistan, very high over the eastern Punjab, Rajputana, Central India, Gujarat, Berar and the Central Provinces, and low over north-east India and Burma. The cold wave extended eastward and intensified on the 24th and on the 25th and 26th a fresh fall of snow and rain occurred in the north-west. This was followed by a brisk extension of the cold wave eastward and southward, and by the 29th lower temperatures than usual prevailed in all parts of the country, except the east of the Peninsula. On the 29th and 30th there occurred another fall of snow over the north-west mountain region and showers over the plains of north-west India, so that the already existing deficiency was further intensified.

The meteorology of the month of February was characterized by abnormal features similar to those which prevailed in February 1902 but in a less intense form. Except quite at the close of the month, anticyclonic conditions prevailed over the whole of north-western and central India, while to the south and east of this anticyclonic area, *i.e.*, over the south of the Central Provinces

and over north-east India, feeble depressions or storms appeared at intervals occasioning slightly unsettled weather.

The cold wave which entered north-west India during the last week of January and extended over the whole of northern and Central India continued to affect the temperature conditions over the whole of northern India during the first eleven days of February. During this period there occurred light snow on the Simla hills on the 1st, 2nd and 5th, in Baluchistan on the 3rd, and in Kashmir on the 4th, 5th and 10th. These falls of snow were generally light, but they added to the large area of snow covered hills in the extreme north-west and helped to maintain and intensify the low temperatures already prevailing over northern India.

Temperature was generally above the normal during this period over the south and east of the Peninsula and in Burma.

On the 11th the influence of the snowfall in the north-west was disappearing and the temperature was rising generally. This continued during the two following days when the mean temperature was generally in excess of the normal, except in Burma, Assam and Orissa.

On the 13th the mean temperature fell to below the normal over Gujarat and adjacent parts of north-western and western India: a marked fall of temperature also occurred over Burma, and over these two regions areas of relatively low temperature were reported. The decrease of temperature which had commenced over Gujarat continued and extended, so that by the 17th temperature was reduced below the normal over Bombay, Gujarat, the Deccan, the central parts of the country, the Gangetic plain and Bengal as well as over the greater part of Burma. The reduction of temperature was greatest at some central stations where it ranged between 6° and 7° . During this period the mean temperature more or less steadily exceeded the normal over Madras on the one hand and over the Punjab, North-West Frontier Province, Sind and western Rajputana on the other, so that there existed relatively high temperatures in the extreme north-west and south-east of the Indian region with a large intervening area of relatively low temperature.

The last eight days of the month were principally remarkable for the appearance of a warm wave over north-west India and its passage eastward across the country. The warm wave appeared in Baluchistan on the 20th and gradually intensified and extended eastward. It covered the whole of north-western and western India by the 25th, had reached west Bengal by the 26th, east Bengal by the 27th, and Arakan by the 28th. The excess of temperature due to this warm wave was greatest in Baluchistan and north-western and western India.

The following gives a summary of the chief features of the temperature conditions of the period:—

- (1) The mean maximum temperature of the period was approximately normal over the greater part of the Indian region, the only important exceptions being the Punjab with an excess of 1° , and Assam, Orissa, Chota Nagpur, Gujarat and the Bombay Deccan, where

the mean day temperature was from 1° to $2\frac{1}{2}^{\circ}$ below the normal.

The following gives data in illustration:—

PROVINCE OR DIVISION.	DEPARTURE OF MEAN MAXIMUM TEMPERATURE FROM NORMAL IN		
	January.	February.	Cold weather period, January and February.
	°	°	°
Burma	—0'3	—0'9	—0'6
Assam	—1'4	—0'9	—1'2
Bengal	—0'1	—1'1	—0'6
Orissa	—1'5	—3'0	—2'3
Bihar	+0'4	—0'2	+0'1
Chota Nagpur	+0'1	—1'9	—0'9
United Provinces of Agra and Oudh	+0'8	+0'4	+0'6
Punjab	—0'1	+2'3	+1'1
Sind	—1'0	+1'7	+0'4
Rajputana	—0'6	—0'1	—0'4
Gujarat	—1'9	—0'9	—1'4
Central India	+0'6	—0'7	—0'1
Central Provinces	+1'3	—1'2	+0'1
Berar	+0'6	—0'9	—0'2
West Coast	—0'6	—0'2	—0'4
Bombay Deccan	—0'8	—1'3	—1'1
Mysore	+0'2	+0'1	+0'2
Madras Coast	+0'1	+0'2	+0'2
Madras Deccan	—0'2	—0'8	—0'5
South India	—0'3	—0'1	—0'2

- (2) The departures of the mean minimum temperature were generally opposite in character in the two months, the temperature being in excess in most districts in January and below the normal in February. On the mean of the whole period the mean night temperature exceeded the normal generally in tropical India and Burma but was in defect in northern and central India. The excess

was most marked in South India and Madras Coast ($2\frac{1}{2}^{\circ}$), and the defect in Sind ($2\frac{3}{4}^{\circ}$).

The following gives data for the various provinces:—

PROVINCE OR DIVISION.	DEPARTURE OF MEAN MINIMUM TEMPERATURE FROM NORMAL IN		
	January.	February.	Cold weather period, January and February.
Burma	+0'5	+1'0	+0'8
Assam	-2'6	-1'1	-1'9
Bengal	+0'2	-0'4	-0'1
Orissa	+3'8	-2'0	+0'9
Bihar	-0'9	-1'0	-1'0
Chota Nagpur	+3'0	-0'8	+1'1
United Provinces of Agra and Oudh	-0'9	-2'1	-1'5
Punjab	-1'4	+0'4	-0'5
Sind	-3'5	-1'0	-2'3
Rajputana	-0'3	-2'3	-1'3
Gujarat	-0'5	-1'7	-1'1
Central India	+1'1	-2'4	-0'7
Central Provinces	+3'1	-2'2	+0'5
Berar	+3'0	-3'3	-0'2
West Coast	+2'2	-0'5	+0'9
Bombay Deccan	+2'9	-0'9	+1'0
Mysore	+3'3	+0'9	+2'1
Madras Coast	+2'9	+2'2	+2'6
Madras Deccan	+3'0	+0'5	+1'8
South India	+2'3	+2'7	+2'5

(3) The mean temperature of the period differed slightly from the normal over the greater part of the country: it was in excess generally in tropical India and Burma and in defect in northern and central India. The departures nowhere exceeded $1\frac{1}{2}^{\circ}$.

The following data illustrate these features:—

PROVINCE OR DIVISION.	DEPARTURE OF MEAN TEMPERATURE FROM NORMAL IN		
	January.	February.	Cold weather period, January and February.
Burma	+0'1	+0'1	+0'1
Assam	-2'0	-1'0	-1'5
Bengal	+0'1	-0'8	-0'4

DEPARTURE OF MEAN TEMPERATURE FROM NORMAL IN

PROVINCE OR DIVISION.	DEPARTURE OF MEAN TEMPERATURE FROM NORMAL IN		
	January.	February.	Cold weather period, January and February.
Orissa	+1'2	-2'5	-0'7
Bihar	-0'3	-0'6	-0'5
Chota Nagpur	+1'6	-1'4	+0'1
United Provinces of Agra and Oudh	-0'1	-0'9	-0'5
Punjab	-0'8	+1'4	+0'3
Sind	-2'3	+0'4	-1'0
Rajputana	-0'5	-1'2	-0'9
Gujarat	-1'2	-1'3	-1'3
Central India	+0'9	-1'6	-0'4
Central Provinces	+2'2	-1'7	+0'3
Berar	+1'8	-2'1	-0'2
West Coast	+0'8	-0'4	+0'2
Bombay Deccan	+1'1	-1'1	0
Mysore	+1'8	+0'5	+1'2
Madras Coast	+1'5	+1'2	+1'4
Madras Deccan	+1'4	-0'2	+0'6
South India	+1'0	+1'3	+1'2

II. The hot weather period.—A large number of storms of the cold weather type affected the weather in northern India in March and caused heavy snow in the hill districts. Weather was hence unusually cool over the whole of extra-tropical India, more especially in the North-West Frontier Province and Baluchistan where the mean temperature of the month was from 5° to 9° below the normal.

A depression passed eastwards from the north-west frontier on the 1st and reached Bengal on the 4th; it gave much snow to the mountain ranges to the north and north-east of the Punjab and showers in the Punjab and also in Bengal and Assam. It was followed by a cold wave of considerable intensity which advanced through Baluchistan on the 4th and 5th and across northern India during the next four days.

A rapid rise of temperature in Baluchistan on the 9th indicated the formation and advance of the second depression of the month from Persia. The disturbance affected northern India during the next three days and gave fairly general rain in upper India and heavy snow in the neighbouring higher mountain ranges. It was followed by a cold wave of greater intensity than the first coldwave of the month.

The mean temperature of the 12th in Baluchistan was nearly 20° below the normal. This wave spread eastwards and also southwards along the Kathiawar and Konkan coasts during the next five days from the 13th to the 17th, causing a large reduction of temperature over the whole of northern, central and western India. This cool wave was apparently chiefly due to heavy and general snow in Persia and Baluchistan. A rapid rise of temperature occurred in the latter area on the 16th and 17th, and was followed by the third period of disturbance lasting from the 19th to the 22nd. The primary depression crossed the frontier from Baluchistan on the 19th and advanced eastwards into Bengal on the 21st. Subsidiary depressions also apparently contributed to increase the precipitation of the period due to the primary storm. Heavy falls of snow were received in Kashmir and probably to the north and north-west of the Punjab. Moderate and fairly general rain fell in upper India and also in Assam and parts of east Bengal. This disturbance was followed by a cold wave which was feebly exhibited in Baluchistan, but very strongly in the Punjab and was hence probably the result of the heavy and low snow in Kashmir and Chitral during the preceding storm. The cool wave chiefly affected the north and east Punjab and the Gangetic plain.

The fourth depression of the month formed in Persia on the 26th and 27th and passed through Baluchistan on the 28th and 29th into northern India on the 30th giving rise to a secondary depression of moderate intensity in the north Punjab. It filled up in north-eastern India during the next two days. This double storm gave apparently very heavy snow in Baluchistan and the mountain ranges to the north and west of the Punjab and was followed by a cold wave of unusual intensity which spread across northern India during the next four days.

The reduction of temperature produced by this wave is shown by the following examples:—

	Departure of mean temperature of date from normal.	Departure of mean temperature of date from normal.
	°	°
Quetta . . .	+2.0 on the 29th	—29.8 on the 31st.
Jacobabad . . .	—3.5 „ 29th	—14.1 „ 1st Apl.
Hyderabad . . .	+1.6 „ 29th	—18.5 „ 1st „
Bikaner . . .	—0.2 „ 30th	—17.2 „ 2nd „
Jaipur . . .	+1.7 „ 30th	—14.5 „ 2nd „
Agra . . .	+2.0 „ 30th	—13.4 „ 3rd „
Allahabad . . .	+0.9 „ 31st	—12.0 „ 3rd „

The cold wave continued to affect the greater part of the Indian area during the first ten days of April. Remarkably low day temperatures were experienced during this period, as is shown by the following data:—

DATE.	STATION.	MAXIMUM TEMPERATURE.		
		Actual of date.	Normal of date.	Departure of actual from normal of date.
		°	°	°
1st April . . .	Chaman . . .	54.3	75.9	—23.6
	Montgomery . . .	73.0	95.5	—22.5
	Quetta . . .	48.2	69.7	—21.5
	Murree . . .	44.1	64.6	—20.5
2nd „ . . .	Bikaner . . .	78.1	96.8	—18.7
	Montgomery . . .	76.0	95.8	—19.8
3rd „ . . .	Sirsa . . .	77.2	96.8	—19.6
4th „ . . .	Leh . . .	32.0	53.7	—21.7
6th „ . . .	Leh . . .	30.5	54.1	—23.6
	Benares . . .	73.2	101.4	—28.2
	Gaya . . .	77.4	101.6	—24.2
	Patna . . .	81.0	99.9	—18.9
7th „ . . .	Darbhanga . . .	76.6	95.5	—18.9
	Gaya . . .	77.9	101.8	—23.9
9th „ . . .	Leh . . .	37.0	55.8	—18.8

Temperature increased generally on the 10th and the following days and on the 15th was practically normal over nearly the whole of India. Rain and snow fell over Afghanistan, Baluchistan and the north-west Himalayas between the 12th and the 14th and a cold wave followed. This cold wave appeared at Kabul on the 12th and in Baluchistan and the extreme north-west of India on the 14th, when the mean temperature fell suddenly between 5° and 10°. This cold wave never extended far into India and had practically disappeared by the 19th. During this period the weather was generally fine and dry over the Indian area, so that temperature rose, and between the 14th and the 20th was generally higher than usual. Weather became unsettled both in north-west and north-east India after the 18th: two low pressure areas giving showers to Baluchistan, the north-west frontier and north-west India, entered north-west India from the westward between the 20th and the close of the month, while daily thundershowers occurred over parts of Assam and Bengal. On the 21st a fresh fall of temperature appeared in the north-west and another fall on the 23rd. These two falls brought temperature more or less below the normal over the greater part of north-western and central India. Between the 25th and the end of the month, the mean temperature remained low in the extreme north-west and extreme north-east of the Indian area, but was higher than usual elsewhere. In Bengal and Bihar strong hot westerly winds were blowing at this time and the day temperature was largely above the normal, by amounts, ranging at some places from 12° to 16°.

On the 27th owing to showers in the surrounding mountain regions and in the North-West Frontier Province,

a brisk to very rapid fall of temperature occurred in the extreme north-west, and the day or maximum temperatures at Chaman, Cherat and Peshawar were from $16\frac{1}{2}^{\circ}$ to $18\frac{1}{2}^{\circ}$ below the normal. Showers continued in Kashmir, Baluchistan, the Indus valley and the Punjab until the 29th, and temperature was more or less below the normal over north-west India during the last few days of the month, but particularly so on the 29th when the defect was 18° at Cherat and 16° at Peshawar and Chaman.

At the beginning of May temperature was below the normal over the whole Indian area, except north-east India and Burma and the west, south and centre of the Peninsula. In the former area the excess was very large, and in parts of Bengal and Assam the mean temperature was more than 10° above the normal. No change occurred during the next three days. On the 4th scattered showers occurred in the North-West Frontier Province and moderate rain and snow in Kashmir, accompanied with a fall of temperature over the extreme north-west of India. The fall in the north-west was not maintained, and from the 5th to the 9th the mean temperature was generally high except in Assam (where numerous thundershowers had occurred), the Indus valley and the Madras Coast. The departures of the mean temperatures from the normal during this period were not, however, very large or important, notwithstanding that the weather, except in Assam, was generally fine and settled. Showers occurred over the south and east of the Peninsula on the 10th and during that and the following day temperature was low over the central parts of the country and portions of the Peninsula, while it was very high over the extreme north-west of India. This high temperature in the north-west preceded the appearance of a storm, and on the 12th and 13th showers fell over Baluchistan and the extreme north-west of India. The result was a very rapid fall of temperature over this area, the change between the 11th and 12th averaging $-8^{\circ}\cdot 0$ over the North-West Dry Area and $-11^{\circ}\cdot 0$ in Baluchistan. The cold wave extended rapidly over the country and reduced temperature to below the normal in nearly all parts of India. At the same time rain fell over Burma and parts of the Peninsula and reduced temperature in these areas also. Further showers occurred in the north-west on the 16th, 17th and 18th and cooled the air so that practically from the 12th to the 22nd the mean temperature was steadily low over the greater part of the Indian area with the exception of Bengal, where it was in considerable excess. On the 18th disturbed weather appeared off the Malabar coast and occasioned moderately heavy rain over the Peninsula and the central parts of the country during the next six days. This rainfall brought temperature below the normal over the areas affected, and from the 23rd to 29th the mean temperature was high over north-western India and Burma and low over the Peninsula and the central parts of India.

The most remarkable feature of the weather of the period, 22nd to 27th, was the abnormally low temperature in the northern half of the Peninsula: this was most marked at the end of the period when the mean temperature was from 10° to 20° below the normal in Berar and the Central Provinces. Temperature increased rapidly there on the 27th and following days and was normal or in excess at the end of the month.

The following summarizes the more important features

of the temperature conditions of the hot weather months, March to May :—

- (1) The mean maximum temperature was on the mean of the period in slight excess in Burma and north-east India, normal in South India and the Deccan, and more or less below the normal over the remainder of the country. The deficiency was greatest and was persistent in the Punjab, Rajputana and Central India.

The following gives departures of over $1\frac{1}{2}^{\circ}$ in amount.

AREA.	DEPARTURE OF MEAN MAXIMUM TEMPERATURE FROM NORMAL IN			
	March.	April.	May.	Period, March to May.
Bengal	0	0	0	0
Punjab	-1'4	+2'4	+3'8	+1'6
Sind	-5'9	-5'9	-4'2	-5'3
Rajputana	-4'1	-3'6	+0'7	-2'3
Central India	-4'1	-4'8	-0'4	-3'1
	-2'0	-3'1	-1'5	-2'2

- (2) The departures of the minimum temperature although similar in character to those of the day temperature were generally smaller in amount. Night temperature was normal or in very slight excess in Burma, north-east India and the southern half of the Peninsula, and in slight to moderate defect over the remainder of India. The deficiency exceeded $1\frac{1}{2}^{\circ}$ in north-west India and was greatest in Rajputana and Sind ($2^{\circ}\cdot 2$).

The following are the data for the various provinces :—

AREA.	DEPARTURE OF MEAN MINIMUM TEMPERATURE FROM NORMAL IN			
	March.	April.	May.	Period, March to May.
Burma	0	0	0	0
Assam	-0'2	+1'5	+1'1	+0'8
Bengal	-1'3	-0'2	-0'3	-0'6
Orissa	-0'4	0	+1'1	+0'2
Bihar	+1'6	-0'2	+0'7	+0'7
Chota Nagpur	-1'2	-0'2	+1'5	0
U. P. of Agra and Oudh	+0'2	+0'1	+0'5	+0'3
Punjab	-1'3	-1'9	-1'5	-1'6
	-1'8	-2'7	-1'5	-2'0

AREA.	DEPARTURE OF MEAN MINIMUM TEMPERATURE FROM NORMAL IN			
	March.	April.	May.	Period, March to May.
	°	°	°	°
Sind	-3.5	-3.4	+0.5	-2.1
Rajputana	-3.9	-2.8	+6.2	-2.2
Gujarat	-2.9	-2.6	+0.4	-1.7
Central India	-2.2	-1.8	+0.4	-1.2
Central Provinces	-2.0	-0.4	-1.8	-1.4
Berar	-1.4	+0.2	-1.9	-1.0
West Coast	-1.9	-0.5	-0.2	-0.9
Bombay Deccan	-2.4	-0.7	+0.2	-1.0
Mysore	+0.5	+0.2	+0.3	+0.3
Madras Coast	+0.9	-0.2	-1.4	-0.2
Madras Deccan	+0.5	+0.1	-1.1	-0.2
South India	+0.1	+0.2	-0.5	-0.1

- (3) The mean temperature differed by less than 1° from the normal in the Peninsula, north-eastern India and Burma, as is shown by the following data :—

AREA.	DEPARTURE OF MEAN TEMPERATURE FROM NORMAL IN			
	March.	April.	May.	Period, March to May.
	°	°	°	°
Burma	-0.5	+1.5	+1.7	+0.9
Assam	-1.2	+0.9	+0.6	+0.1
Bengal	-0.9	+1.2	+2.5	+0.9
Orissa	+0.3	+0.4	+1.1	+0.6
Bihar	-1.0	+0.4	+3.0	+0.8
Chota Nagpur	+0.5	-0.7	+0.2	0
West Coast	-1.7	-0.6	-0.2	-0.8
Bombay Deccan	-1.2	+0.2	-0.5	-0.5
Mysore	+1.0	+1.3	-0.6	+0.6
Madras Coast	+0.9	-0.3	-2.7	-0.7
Madras Deccan	+0.9	+0.7	-1.7	0
South India	+0.7	+0.2	-1.1	-0.1

The mean temperature was in defect of the normal in north-western India, Central India and the Central Provinces, by amounts ranging from 1° in Berar to 4° in the Punjab. The deficiency was greatest in March and April and least in May. The following table illustrates these features and shows that the area which was relatively coolest included the Punjab, Sind and Rajputana :—

AREA.	DEPARTURE OF MEAN TEMPERATURE FROM NORMAL IN			
	March.	April.	May.	Period, March to May.
	°	°	°	°
U. P. of Agra and Oudh	-1.5	-2.0	-0.4	-1.3
Punjab	-3.9	-4.3	-2.9	-3.7
Sind	-3.8	-3.5	+0.6	-2.2
Rajputana	-4.0	-3.8	-0.1	-2.6
Gujarat	-3.6	-1.9	+1.0	-1.5
Central India	-2.1	-2.5	-0.6	-1.7
Central Provinces	-1.2	-0.3	-2.4	-1.3
Berar	-1.1	+0.2	-2.4	-1.1

III.—The south-west monsoon period.—The departures of the temperature conditions from the normal during this period are as a rule small, but in 1903 they were considerable in the northern districts of the region usually served by the Bombay current, owing to scanty precipitation during June and the first fortnight of July. The Bombay current was late in arrival and unsteady throughout; it was feeble at the outset, but moderately strong from the middle of July to the middle of August after which it dwindled somewhat until September 9th, when a final burst occurred in the Punjab. After retiring from north-west India the strength was well up to the average.

The Bay current was also unsteady throughout. It was weak until early in August, but from that time until the end of September it had intervals of considerable strength.

The following gives the chief features of the temperature conditions of the period :—

- (1)(a) The daily maximum temperature was generally above the normal from June to August and normal or in slight defect in September over the area usually dominated by the Bay current. The following gives data :—

PROVINCE OR DIVISION.	DEPARTURE OF MEAN MAXIMUM TEMPERATURE FROM NORMAL IN				
	June.	July.	August.	September.	Period, June to September.
	°	°	°	°	°
Burma	+0.1	+1.2	-0.4	0	+0.2
Assam	-1.0	+0.6	-1.0	-0.3	-0.4
Bengal	+0.6	+1.7	+0.2	-0.4	+0.5
Orissa	+1.2	+1.4	+0.7	-0.7	+0.7
Bihar	-0.2	+4.4	+0.9	+0.4	+1.4
Chota Nagpur	+4.4	+3.4	+1.2	0	+2.3
United Provinces of Agra and Oudh.	+4.2	+7.2	-0.2	-1.3	+2.5
Punjab	+3.9	+1.0	0	-0.2	+1.2

(b) The mean daily maximum temperature on the mean of the period differed only slightly from the normal in the south, centre and the coast districts of the Peninsula. It was generally in slight to considerable excess in June and in slight defect in the remainder of the period; on the mean of the whole period the departures were generally small in amount. The following gives data for this area :—

PROVINCE OR DIVISION.	DEPARTURE OF MEAN MAXIMUM TEMPERATURE FROM NORMAL IN				
	June.	July.	August.	September.	Period June to September.
	°	°	°	°	°
West Coast	+0.6	—0.3	0	—0.1	+0.1
Bombay Deccan	+3.9	—0.9	+0.1	0	+0.8
Mysore	+1.8	—0.6	—1.0	—0.6	—0.1
Madras Coast	—0.5	—1.9	—0.9	—1.5	—1.2
Madras Deccan	+2.9	—2.2	—0.5	—0.1	0
South India	+0.4	—1.0	—2.0	—2.9	—1.4

(c) Over the remainder of the country, including Sind, Rajputana, Central India, Gujarat, the Central Provinces and Berar, the daily maximum temperature was in large excess in June and July, in slight excess in August and in slight defect in September, except in the first two areas where it remained in excess. The following are the data :—

PROVINCE OR DIVISION.	DEPARTURE OF MEAN MAXIMUM TEMPERATURE FROM NORMAL IN				
	June.	July.	August.	September.	Period, June to September.
	°	°	°	°	°
Sind	+2.2	+2.4	+3.6	+3.1	+2.8
Rajputana	+5.5	+4.2	+0.4	+0.5	+2.7
Central India	+7.1	+7.2	+0.5	—1.9	+3.2
Gujarat	+2.4	+2.4	+0.3	—0.6	+1.1
Central Provinces	+6.5	+3.7	+0.6	—1.4	+2.4
Berar	+6.3	+0.4	+0.1	—1.1	+1.4

Over the greater part of north-west India the highest maximum temperatures of the year were recorded in the first fortnight of June and at most stations between the 9th and the 14th: they were however by no means remarkable. In years of normal conditions the hot weather usually terminates in the fourth week of May, but in 1902, owing to the delay in the establishment of the monsoon, it was protracted beyond its normal period, and the highest temperatures of the year were registered about a fortnight later than usual.

The following gives data :—

STATION.	Highest maximum temperature recorded during year.	Date on which recorded.	Highest maximum temperature recorded during year previous to 1903.	Year in which recorded.
Jacobabad	123.5	11th June	126.0	1897
Montgomery	119.0	13th „	121.9	1895
Multan	118.9	13th „	121.0	1897
D. I. Khan	118.2	13th and 14th June	121.5	1882
Bikaner	117.8	15th June	119.8	1897
Peshawar	117.5	10th July	119.0	1880
Sialkot	117.5	4th June and 10th July	121.3	1877
Khushab	117.4	12th June and 10th July	120.4	1856, 1897
Sirsa	117.3	13th June	121.1	1805

(2) Except, in Burma, north-east India and Madras the night temperature was higher than usual throughout the country, the excess being on the whole most marked in June and July. The area of largest excess lay over the United Provinces, Rajputana and Central India in June and July, over Sind in August and over the Punjab in September.

The following table illustrates these features :—

PROVINCE OR DIVISION.	DEPARTURE OF MEAN MINIMUM TEMPERATURE FROM NORMAL IN				
	June.	July.	August.	September.	Period June to September.
Burma	+0.2	+0.7	0	+0.4	+0.3
Assam	—0.6	+0.4	—0.3	+0.5	0
Bengal	—0.7	+0.6	0	—0.1	—0.1
Orissa	—0.2	+0.6	+0.7	+0.2	+0.3
Bihar	—0.3	+1.7	+0.1	+0.3	+0.5
Chota Nagpur	+1.3	+1.5	+0.6	+0.6	+1.0
U. P. of Agra and Oudh	+2.4	+3.0	+0.3	+1.3	+1.8
Punjab	+2.4	+0.2	+0.6	+2.6	+1.5
Sind	+1.5	+2.1	+1.9	+1.9	+1.9
Rajputana	+4.4	+2.5	+1.0	+1.8	+2.4
Gujarat	+1.0	+1.2	+0.9	+1.5	+1.2
Central India	+3.8	+3.4	+1.2	+1.5	+2.5
Central Provinces	+2.3	+1.2	+0.6	+0.8	+1.2
Berar	+3.2	+0.7	+0.7	+0.9	+1.4
West Coast	+0.7	+0.6	+0.6	+0.4	+0.6
Bombay Deccan	+0.9	+0.8	+0.3	+0.9	+0.7
Mysore	+0.4	+0.6	+0.1	+1.1	+0.6
Madras Coast	0	—0.4	+0.2	0	—0.1
Madras Deccan	+1.3	0	—0.4	+0.8	+0.4
South India	+0.8	0	+0.1	+0.3	+0.3

- (3) The mean temperature was more or less in excess over the whole Indian land area with the exception of Assam, the Madras Coast and South India, where it was very slightly below the normal. The excess was moderate to large in the first two months of the period over the greater part of northern and Central India and the Central Provinces, but diminished rapidly in August, and in September was in some areas replaced by a small defect. The following table gives data for the various provinces:—

PROVINCE OR DIVISION.	DEPARTURE OF MEAN TEMPERATURE FROM NORMAL IN				
	June.	July.	August.	September.	Period, June to September.
Burma	+0'2	+1'0	—0'2	+0'2	+0'3
Assam	—0'8	+0'5	—0'8	+0'1	—0'2
Bengal	—0'1	+1'2	+0'1	—0'3	+0'2
Orissa	+0'5	+1'0	+0'7	—0'3	+0'5
Bihar	—0'3	+3'1	+0'5	+0'4	+0'9
Chota Nagpur	+2'9	+2'5	+0'9	+0'3	+1'7
U. P. of Agra and Oudh	+3'3	+5'1	+0'1	0	+2'1
Punjab	+3'2	+0'6	+0'3	+1'2	+1'3
Sind	+1'9	+2'3	+2'8	+2'5	+2'4
Rajputana	+5'0	+3'4	+0'7	+1'2	+2'6
Gujarat	+1'7	+1'8	+0'6	+0'5	+1'2
Central India	+5'5	+5'3	+0'9	—0'2	+2'9
Central Provinces	+4'4	+2'5	+0'6	—0'3	+1'8
Berar	+4'8	+0'6	+0'4	—0'1	+1'4
West Coast	+0'7	+0'2	+0'3	+0'2	+0'4
Bombay Deccan	+2'4	—0'1	+0'2	+0'5	+0'8
Mysore	+1'1	0	—0'5	+0'3	+0'2
Madras Coast	—0'3	—1'2	—0'4	—0'8	—0'7
Madras Deccan	+2'1	—0'9	—0'5	+0'4	+0'3
South India	+0'6	—0'5	—1'0	—1'3	—0'6

The excess was absolutely greatest at the stations, for which data are given below:—

STATION.	DEPARTURE OF MEAN TEMPERATURE FROM NORMAL IN				
	June.	July.	August.	September.	Period, June to September.
Sutna	+6'8	+7'7	+1'5	+0'8	+4'2
Hoshangabad	+6'6	+5'3	+1'6	—0'2	+3'3
Nowgong	+6'5	+6'9	+0'5	—0'6	+3'3
Jhansi	+6'4	+6'4	+0'3	—0'1	+3'3
Saugor	+5'7	+4'3	+0'6	—0'6	+2'5
Jaipur	+5'5	+3'7	0	+0'6	+2'5
Sambhar	+5'5	+3'4	+0'2	+0'3	+2'4
Ajmer	+5'4	+4'1	+0'2	+0'8	+2'6
Mainpuri	+5'1	+7'3	+0'2	—0'6	+3'0

Remarkable contrasts of temperature conditions prevailed in the west Himalayan region, temperature being in defect in the inner and in excess on the outer ranges, as shown in the following table:—

STATION.	DEPARTURE OF MEAN TEMPERATURE FROM NORMAL IN				
	June.	July.	August.	September.	Period, June to September.
Srinagar	—3'4	—1'4	+2'5	—0'3	—0'7
Murree	—0'5	+1'1	+2'1	—1'8	+0'2
Chakrata	+2'2	+0'6	—0'6	—1'4	+0'2
Simla	+1'6	+1'5	—0'1	—2'3	+0'2
Leh	—5'3	—6'8	—3'9	+0'8	—3'8
Kashgar	—4'0	—1'6	+1'5	+2'8	—0'3
Gilgit	—3'6	—0'2	—3'0	+3'0	—3'2
Kailang	—4'0	—4'7	—2'8	+2'3	—2'3

The data are interesting as showing that the low temperature in Kashmir extended northwards to Kashgar during the first two months.

IV.—The retreating south-west monsoon period.—The monsoon currents withdrew from upper India on the 14th September at about the normal date: while the rains of the retreating monsoon in the centre and south of the Peninsula commenced in the third week of October and continued intermittently until about the end of December.

The total rainfall of the period was lighter than usual over parts of north-western India but was heavier than usual over the central parts of the country, Assam, Bengal, Orissa and north Circars; and much heavier than usual over the south of the Peninsula—more particularly over the Carnatic. In Burma the rainfall was irregularly distributed, but was generally excessive.

The following summarizes the chief features of the temperature conditions of the period:—

- (1) The daily maximum temperature was on the mean of the period in slight defect and the night temperature in very slight excess in Burma, Bengal, Orissa and the United Provinces. The mean temperature was in consequence generally below the normal in those areas to a very slight extent. In Assam temperature was in very slight excess both by day and night.

The following gives data for these areas :—

AREA.	DEPARTURE FROM NORMAL OF PERIOD, OCTOBER TO DECEMBER.		
	Maximum temperature.	Minimum temperature.	Mean temperature.
	°	°	°
Burma	—1'1	+0'7	—0'2
Bengal	—0'2	+0'3	0
Orissa	—1'5	+0'1	—0'7
United Provinces of Agra and Oudh.	—1'7	+0'4	—0'7
Assam	+0'4	+0'4	+0'4

(2) In Bihar and Chota Nagpur day and night temperatures and hence also the mean temperature were in defect, the defect being, on the whole, somewhat more marked in the day than in the night temperature.

The following gives data for these two divisions :—

AREA.	DEPARTURE FROM NORMAL OF PERIOD, OCTOBER TO DECEMBER.		
	Maximum temperature.	Minimum temperature.	Mean temperature.
	°	°	°
Bihar	—0'6	—0'9	—0'8
Chota Nagpur	—2'1	—0'3	—1'2

(3) In north-west India temperature was higher than usual in October and in defect in December: it varied somewhat irregularly from the normal in November, being in excess in the Punjab and Sind and in defect in Rajputana and Gujarat.

The following gives data :—

AREA.	DEPARTURE FROM NORMAL OF MEAN TEMPERATURE IN			
	October.	November.	December.	Period.
	°	°	°	°
Punjab	+2'3	+0'8	—1'1	+0'7
Sind	+2'7	+0'2	—1'4	+0'5
Rajputana	+1'4	—1'6	—1'8	—0'7
Gujarat	+0'7	—1'7	—1'2	—0'7

(4) Temperature was in defect throughout the period in Central India, the Central Provinces, and the Peninsula generally. The deficiency was small in amount in October and December and moderate in November, and was exhibited somewhat more largely in the day than in the night temperatures.

The following data illustrate these features :—

AREA.	DEPARTURE FROM NORMAL OF PERIOD, OCTOBER TO DECEMBER.		
	Maximum temperature.	Minimum temperature.	Mean temperature.
	°	°	°
Central India	—2'7	—0'7	—1'7
Central Provinces	—0'9	—1'2	—1'1
West Coast	—1'0	—0'5	—0'8
Bombay Deccan	—0'6	—1'2	—0'9
Mysore	—1'8	—0'3	—1'1
Madras Coast	—1'3	+0'1	—0'6
Madras Deccan	—1'7	—0'1	—0'9
South India	—0'6	—0'1	—0'4

(5) In the western Himalayas temperature was generally slightly above the normal, owing probably to the comparative absence of early winter snow-falls on the inner ranges.

The following gives comparative data :—

STATION.	DEPARTURE FROM NORMAL.								
	OCTOBER, 1903.		NOVEMBER, 1903.		DECEMBER, 1903.		PERIOD, OCTOBER TO DECEMBER, 1903.		
	Maximum temperature.	Minimum temperature.	Maximum temperature.	Minimum temperature.	Maximum temperature.	Minimum temperature.	Maximum temperature.	Minimum temperature.	Mean temperature.
	°	°	°	°	°	°	°	°	°
Kashgar	+4'7	+0'2	°	°	°	°	°	°	°
Gilgit	+5'3	+1'6	—1'0	—0'9	+0'2	—2'3	+1'5	—0'5	+0'5
Leh	+1'3	+1'3	—2'3	—1'5	+0'9	—0'6	0	—0'3	—0'2
Kailang	+4'2	+1'6	—0'2	—0'8	+1'1	+1'2	+1'7	+0'7	+1'2
Srinagar	+1'6	+4'6	—2'4	+1'8	0	—2'5	—0'3	+1'3	+0'5
Murree	+0'9	—0'6	—1'5	—3'0	+0'5	—1'5	0	—1'7	—0'9
Simla	+0'6	+0'9	—0'5	—0'6	+2'3	+2'4	+0'8	+0'9	+0'9
Chakrata	+1'1	+0'7	+2'3	+0'4	+2'9	+1'6	+2'1	+0'9	+1'5
Ranikhet	—1'1	+0'9	—0'3	—0'1	+1'2	+1'8	—0'1	+0'9	+0'4

The year.—The following gives departure data for the mean temperature of extra-tropical and tropical India

and also for the whole of India, month by month, during the year:—

MONTH.	DEPARTURE FROM NORMAL OF MEAN DAILY TEMPERATURE IN		
	Extra-tropical India (from Table II).	Tropical India (from Table II).	Whole India (from Table II).
January	-0.3	+1.2	+0.4
February	+0.3	0	+0.2
March	-2.6	-0.1	-1.4
April	-1.7	+0.7	-0.5
May	+0.5	-0.3	+0.1
June	+1.8	+1.8	+1.8
July	+1.9	+0.6	+1.2
August	+0.3	+0.4	+0.3
September	+1.0	+0.3	+0.6
October	+1.4	-0.1	+0.7
November	-0.4	-0.7	-0.6
December	-0.7	-0.7	-0.7
Whole year	+0.1	+0.3	+0.2

The data indicate that on the average of the whole of India temperature was above the normal in all months of the year with the exception of March, April, November and December. The deficiency in the hot weather months of March and April accompanied heavy and late snowfall in the mountain areas to the north and west of the Punjab, while in November and December it was due in part to excessive rainfall. The excess was most marked in the first half of the monsoon period when the rains were very deficient; it was absolutely greatest in June (+1.8°). The excess was greatest in tropical India in June and in extra-tropical India in July.

The mean temperature of the whole Indian land area for the year was only 0.2° above the normal, and the excess was slightly more marked in tropical than extra-tropical India, averaging 0.3° for the former and 0.1° for the latter area.

The following gives data for the hottest and coolest areas during the year:—

GREATEST EXCESS.		GREATEST DEFECT.	
Station.	Amount.	Station.	Amount.
Mergui	+1.6	Leh	-2.9
Sialkot	+1.2	Murree	-2.8
Sutna	+1.1	Gilgit	-2.1
Kurrachee	+1.0	Kailang	-1.8
Trivandrum	+0.9	Dera Ismail Khan	-1.4
Colombo	+0.9	Montgomery	-1.4
Tavoy	+0.8		
Bassein	+0.8		
Hazaribagh	+0.8		

The low temperature conditions in the western Himalayas were evidently related to those obtaining in central Asia, Afghanistan, Baluchistan and Persia, as shown by the following data:—

STATION.	DEPARTURE FROM NORMAL OF		
	Maximum temperature.	Minimum temperature.	Mean temperature.
	°	°	°
Chaman	-2.7	-2.5	-2.6
Quetta	-1.9	-1.8	-1.9
Kabul	-3.3	-4.3	-3.8
Isfahan	-1.7	-3.0	-2.4
Bushire	-1.3	-1.1	-1.2
Kashgar	0	-2.3	-1.1
Teheran	-0.8	-1.3	-1.0
Baghdad	+1.5	+0.8	+1.2

The following table gives the mean departure and progressive change of the mean actual temperature of the past 14 years:—

YEAR.	Number of stations.	Mean departure.	Progressive change.
		°	°
1890	85	+0.13	+0.73
1891	72	-0.03	-0.16
1892	74	+0.66	+0.69
1893	68	-1.33	-1.99
1894	66	+0.11	+1.44
1895	69	+0.35	+0.24
1896	67	+1.30	+0.95
1897	75	+0.90	-0.40
1898	75	+0.65	-0.25
1899	52	+0.78	+0.13
1900	50	+1.17	+0.39
1901	50	+0.63	-0.54
1902	46	+1.06	+0.43
1903	46	+0.18	-0.88

The data show that the excessive temperatures which have prevailed since 1894 still continue: the excess was however very small in 1903.

Atmospheric Pressure.

Full information regarding the barometers in use at Indian observatories and of the methods of reducing the observations and obtaining the mean daily and monthly pressures will be found in the annual reports of previous years (e.g., pages 58 and 59 of the report for 1890) and also in pages 7 and 8 of the monthly review for January, 1903.

In Table II of each monthly review the monthly mean daily pressure (corrected for temperature) is given in the seventh column and the departure from the normal in the eighth column. The normal monthly mean pressure values were recalculated for all first and second class stations in 1896, data up to 1896 being utilized, and will be found in Table VI of the Annual Summary for that year. The departure data in the monthly reviews for the year 1903 were obtained by a comparison of the actual monthly means with the corresponding normals published in the Annual Summary for 1896, and the departures of the monthly pressures of all first and second class stations in 1903 are given in Table XIV. The figures in the seventh and eighth columns of Table II appended to the present Annual Summary, giving data of the mean pressure of the air and its departures

from the normal for all first and second class stations, are comparable with the corresponding data of previous years published in the annual reports and summaries.

In the ninth column of Table II in each monthly review the mean pressures reduced to sea-level and corrected to constant gravity (Lat. 45°) are given. These, it should be noted, are not comparable with the sea-level pressure values of the years 1875—90 as given in the annual reports for those years, for previous to 1891 no correction was made to reduce the monthly pressure means to standard gravity.

In Table I of each monthly review, and also in that appended to the Annual Summary, the pressure data are given for a fixed hour (*viz.*, 8 A.M. local time) of the day. The fifth column in those tables gives the mean 8 A.M. pressures for the month corrected for temperature. In the sixth column are given the departures of these mean 8 A.M. pressures from the normal mean 8 A.M. pressures.

The mean pressure data for the year 1903 will be found under the headings "Pressure" in Tables I and II appended to the present Annual Summary.

TABLE XIV.—Departures from normal of monthly and annual mean pressures in 1903.

METEOROLOGICAL PROVINCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
BURMA COAST AND BAY ISLANDS.	Port Blair	"	"	"	"	"	"	"	"	"	"	"	"	"
	Rangoon	+ '031	+ '064	+ '005	+ '026	+ '034	+ '011	- '025	+ '027	+ '012	- '007	+ '004	- '023	+ '013
	Diamond Island	+ '015	+ '061	- '014	+ '007	+ '022	+ '018	- '023	+ '024	+ '024	- '030	- '012	- '016	+ '006
	Akyab	+ '011	+ '056	- '023	+ '002	+ '020	0	- '037	+ '015	+ '006	- '036	- '015	- '034	- '003
BENGAL AND ORISSA.	Chittagong	+ '016	+ '063	- '021	- '001	+ '025	+ '015	- '030	+ '013	+ '019	- '047	- '026	- '034	- '001
	Calcutta (Alipur)	+ '021	+ '046	- '029	- '022	+ '027	+ '008	- '037	- '003	- '001	- '072	- '033	- '040	- '010
	Saugor Island	+ '021	+ '069	- '025	+ '023	+ '047	+ '031	- '015	+ '011	+ '028	- '053	- '020	- '018	+ '008
	False Point	+ '020	+ '064	- '025	+ '021	+ '050	+ '028	- '032	+ '003	+ '022	- '070	- '028	- '032	+ '002
GANGETIC PLAIN AND CHOTA NAGPUR.	Hazaribagh	+ '004	+ '058	- '034	+ '015	+ '047	+ '012	- '061	- '013	+ '018	- '081	- '028	- '027	- '008
	Darbhangha	+ '008	+ '043	- '037	+ '026	+ '048	+ '010	- '024	- '013	+ '023	- '073	- '027	- '030	- '006
	Allahabad	+ '013	+ '058	- '023	+ '012	+ '027	+ '031	0	- '001	+ '019	- '058	- '017	- '016	+ '005
	Dehra Dun	+ '024	+ '068	- '017	+ '051	+ '047	+ '002	- '048	- '021	- '002	- '079	- '011	- '017	0
UPPER SUB-HIMALAYAS.	Roorkee	+ '020	+ '062	- '025	+ '026	+ '024	- '015	- '024	- '021	- '003	- '058	- '031	- '035	- '007
	Meerut	+ '015	+ '055	- '023	+ '042	+ '033	- '010	- '025	- '020	- '007	- '073	- '039	- '041	- '008
	Lahore	+ '009	+ '051	- '023	+ '046	+ '049	- '011	- '024	- '021	- '005	- '063	- '029	- '034	- '005
	Ludhiana	+ '014	+ '057	- '018	+ '068	+ '069	+ '001	+ '004	- '024	- '008	- '063	- '027	- '037	+ '003
INDUS VALLEY AND NORTH-WEST RAJPUTANA.	Kurrachee	+ '020	+ '060	- '018	+ '058	+ '058	- '005	- '005	- '014	- '003	- '060	- '017	- '028	+ '003
	Peshawar	+ '018	+ '045	- '021	+ '036	+ '103	+ '015	+ '025	- '020	- '022	- '080	- '018	- '033	+ '008
	Jacobabad	+ '024	+ '056	+ '001	+ '081	+ '091	+ '035	+ '013	- '022	- '002	- '071	- '008	- '018	+ '015
	Kurrachee	+ '035	+ '073	+ '014	+ '060	+ '030	+ '029	- '029	- '006	- '015	- '054	+ '002	- '002	+ '011

TABLE XIV.—Departures from normal of monthly and annual mean pressures in 1903—concl'd.

METEOROLOGICAL PROVINCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
		"	"	"	"	"	"	"	"	"	"	"	"	"
EAST RAJ- PUTANA, CENTRAL INDIA AND GUJARAT.	Jaipur . .	+ '016	+ '064	- '004	+ '059	+ '051	+ '017	- '023	- '010	- '008	- '066	- '002	- '019	+ '006
	Deesa . .	+ '014	+ '072	+ '004	+ '044	+ '015	+ '030	- '041	- '008	- '018	- '066	+ '001	- '007	+ '003
DECCAN .	Belgaum . .	+ '020	+ '054	+ '008	+ '020	+ '013	+ '012	- '042	- '010	- '013	- '029	- '004	- '013	+ '001
	Sholapur . .	+ '007	+ '044	- '007	+ '017	+ '027	+ '003	- '051	- '016	- '013	- '049	- '008	- '018	- '005
	Akola . .	+ '010	+ '057	+ '004	+ '022	+ '036	+ '016	- '048	- '011	- '005	- '063	+ '005	- '009	+ '001
	Buldan . .	+ '012	+ '053	- '004	+ '018	+ '025	+ '019	- '049	- '011	- '006	- '057	- '001	- '012	- '001
	Khandwa . .	+ '011	+ '064	+ '002	+ '022	+ '031	+ '028	- '054	- '012	- '008	- '068	+ '002	- '014	0
	Nagpur . .	+ '020	+ '073	+ '005	+ '043	+ '070	+ '026	- '038	- '004	+ '015	- '061	+ '008	- '007	+ '013
	Hyderabad (Deccan). .	+ '014	+ '048	- '003	+ '030	+ '038	+ '018	- '041	- '004	- '005	- '061	- '028	- '038	- '003
WEST COAST.	Bombay . .	+ '020	+ '064	+ '019	+ '011	0	+ '025	- '059	- '011	- '013	- '033	- '009	- '015	0
	Karwar . .	+ '013	+ '046	+ '001	+ '013	0	- '010	- '046	- '010	- '017	- '020	+ '006	- '014	- '003
	Salem . .	+ '015	+ '036	- '023	+ '001	- '006	- '026	- '053	- '024	- '028	- '044	- '019	- '022	- '016
	Chitaldroog .	+ '023	+ '038	+ '008	+ '016	+ '001	+ '009	- '047	0	- '008	- '028	- '022	- '024	- '003
SOUTH INDIA.	Bangalore . .	+ '016	+ '042	- '008	+ '018	+ '012	- '003	- '043	- '006	- '020	- '039	- '015	- '020	- '006
	Haasan . .	+ '030	+ '039	+ '011	+ '018	- '004	+ '004	- '044	- '011	- '018	- '034	- '027	- '027	- '005
	Mysore . .	+ '022	+ '034	+ '008	+ '011	- '007	- '001	- '043	- '012	- '018	- '033	- '022	- '022	- '007
	Madras . .	+ '016	+ '044	- '020	+ '024	+ '042	- '001	- '044	- '014	- '014	- '048	- '023	- '020	- '005
	Bellary . .	+ '007	+ '047	- '009	+ '014	+ '022	- '010	- '053	- '016	- '021	- '054	- '018	- '022	- '009
HILL STA- TION BALU- CHISTAN.	Quetta . .	+ '029	+ '080	- '016	+ '044	+ '069	+ '055	+ '039	+ '024	+ '037	0	+ '011	+ '020	+ '033
HILL STA- TIONS, NORTH- ERN INDIA.	Leh . .	+ '016	+ '092	- '118	+ '009	+ '036	+ '037	+ '037	+ '004	+ '033	- '009	- '024	- '013	+ '008
	Srinagar . .	+ '002	+ '055	- '067	+ '046	+ '054	+ '035	+ '074	+ '004	- '004	- '041	- '013	- '041	+ '009
	Simla (Ridge) .	+ '014	+ '072	- '043	+ '025	+ '049	+ '029	+ '023	+ '004	+ '018	- '021	- '001	- '007	+ '014
	Chakrata . .	+ '013	+ '056	- '046	+ '011	+ '042	+ '021	+ '026	- '007	+ '010	- '034	- '019	- '023	+ '004
	Rani khet . .	+ '029	+ '065	- '018	+ '021	+ '044	+ '008	+ '006	- '011	+ '012	- '024	- '014	- '010	+ '009
	Darjeeling . .	+ '005	+ '046	- '038	+ '023	+ '049	+ '023	+ '017	- '002	+ '026	- '004	- '020	- '008	+ '010
HILL STA- TIONS, CENTRAL INDIA.	Mount Abu . .	- '015	+ '042	- '030	+ '018	+ '021	+ '040	- '025	- '008	- '005	- '057	- '014	- '024	- '005
	Pachmarhi . .	+ '006	+ '049	- '001	+ '037	+ '038	+ '028	- '027	+ '009	+ '003	- '069	- '001	- '010	+ '005
	Chikalda . .	- '004	+ '033	- '020	+ '014	+ '031	+ '028	- '044	- '013	- '020	- '083	- '014	- '024	- '010
EXTRA IN- DIAN STA- TIONS.	Aden . .	+ '020	+ '092	+ '016	+ '017	+ '031	+ '020	- '015	- '027	- '016	- '027	+ '010	- '023	+ '008
	Perim . .	+ '028	+ '100	+ '034	+ '019	+ '031	+ '022	- '020	- '037	- '010	- '013	+ '010	- '014	+ '013
	Zanzibar . .	+ '034	+ '052	+ '002	- '013	- '026	- '040	- '031	- '029	+ '014	0	- '010	- '019	- '006
	Port Victoria (Seychelles) .	- '002	+ '032	+ '006	- '010	- '030	- '044	- '044	- '031	- '014	- '008	+ '018	- '011	- '012
	Mauritius . .	- '023	- '015	- '059	- '015	+ '003	- '037	- '015	- '011	- '005	+ '011	+ '013	+ '012	- '012

The following tables give summaries of the pressure departure data according to the two groups of divisions employed in the corresponding tables of temperature departure data, that is, for the sixteen divisions for which

the departure data were given in the "Geographical Summaries" in the annual reports previous to 1891 and the eleven meteorological provinces in Table I of each monthly review:—

TABLE XV.—*Geographical summary of the pressure departure data of Table II in the Monthly Weather Reviews of 1903.*

METEOROLOGICAL PROVINCE.	Number of stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
		"	"	"	"	"	"	"	"	"	"	"	"	"
North-West Himalayas .	5	+ '015	+ '068	- '058	+ '022	+ '045	+ '026	+ '033	- '001	+ '014	- '026	- '014	- '019	+ '009
Sikkim Himalayas and Nepal.	1	+ '005	+ '046	- '038	+ '023	+ '049	+ '023	+ '017	- '002	+ '026	- '004	- '020	- '008	+ '010
Punjab Plains . . .	3	+ '017	+ '054	- '019	+ '071	+ '077	+ '004	+ '008	- '019	- '013	- '068	- '021	- '033	+ '005
Gangetic Plain . . .	5	+ '016	+ '061	- '022	+ '035	+ '036	- '001	- '024	- '017	0	- '066	- '025	- '029	- '003
Western Rajputana .	4	+ '015	+ '061	- '003	+ '051	+ '039	+ '034	- '021	- '011	- '010	- '062	- '005	- '013	+ '006
Eastern Rajputana and Central India.	1	+ '016	+ '064	- '004	+ '059	+ '051	+ '017	- '023	- '010	- '008	- '066	- '002	- '019	+ '006
Nerbudda Valley . .	1	+ '011	+ '064	+ '002	+ '022	+ '031	+ '028	- '054	- '012	- '008	- '068	+ '002	- '014	0
Chota Nagpur . . .	1	+ '008	+ '043	- '037	+ '026	+ '042	+ '010	- '024	- '013	+ '003	- '073	- '027	- '030	- '006
Lower Bengal . . .	2	+ '021	+ '067	- '025	+ '022	+ '049	+ '030	- '024	+ '007	+ '025	- '062	- '024	- '025	+ '005
Orissa	1	+ '004	+ '058	- '034	+ '015	+ '047	+ '012	- '061	- '013	+ '018	- '081	- '028	- '027	- '008
Central Provinces (South) and Berar.	5	+ '009	+ '053	- '003	+ '027	+ '040	+ '023	- '041	- '006	- '003	- '057	- '001	- '012	+ '002
Konkan	2	+ '017	+ '055	+ '010	+ '012	0	+ '008	- '053	- '011	- '015	- '027	- '002	- '015	- '002
Deccan, Hyderabad and Mysore.	8	+ '017	- '043	+ '001	+ '018	+ '013	+ '004	- '046	- '009	- '015	- '041	- '018	- '023	- '005
East Coast and Carnatic.	2	+ '016	+ '040	- '022	+ '013	+ '018	- '014	- '049	- '019	- '021	- '046	- '021	- '021	- '011
Arakan and Pegu . .	4	+ '016	+ '057	- '022	+ '002	+ '024	+ '010	- '032	+ '012	+ '012	- '046	- '022	- '031	- '002
Bay Island	1	+ '031	+ '064	+ '006	+ '026	+ '034	+ '011	- '025	+ '027	+ '012	- '007	+ '004	- '023	+ '013
Extra-Tropical India .	23	+ '015	+ '061	- '026	+ '038	+ '046	+ '018	- '006	- '009	+ '002	- '054	- '016	- '022	+ '004
Tropical India . . .	23	+ '015	+ '050	- '006	+ '016	+ '022	+ '009	- '043	- '004	- '005	- '047	- '013	- '021	- '002
Whole India	46	+ '015	+ '055	- '016	+ '027	+ '034	+ '013	- '025	- '007	- '001	- '051	- '015	- '022	+ '001

TABLE XVI.—*Departure of the mean pressure of each month of 1903 from the normal in the eleven meteorological provinces of India.*

METEOROLOGICAL PROVINCE.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
	"	"	"	"	"	"	"	"	"	"	"	"	"
Burma Coast and Bay Islands	+ '022	+ '071	- '009	+ '006	+ '025	+ '019	- '018	+ '023	+ '015	- '026	- '003	- '022	+ '009
Burma Inland . . .	+ '037	+ '084	- '005	+ '006	+ '030	+ '026	- '008	+ '031	+ '013	- '037	- '028	- '019	+ '011
Assam	+ '024	+ '069	- '024	- '002	+ '038	+ '017	- '008	+ '007	+ '017	- '050	- '029	- '017	+ '004
Bengal and Orissa . .	+ '020	+ '072	- '021	+ '009	+ '048	+ '018	- '013	+ '010	+ '020	- '060	+ '018	- '017	+ '006

TABLE XVI.—*Departure of the mean pressure of each month of 1903 from the normal in the eleven meteorological provinces of India—concl'd.*

METEOROLOGICAL PROVINCE.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
	"	"	"	"	"	"	"	"	"	"	"	"	"
Gangetic Plain and Chota Nagpur.	+ '017	+ '068	- '021	+ '034	+ '050	+ '013	- '019	- '004	+ '004	- '070	- '015	- '016	+ '003
Upper Sub-Himalayas . .	+ '022	+ '076	- '020	+ '056	+ '059	+ '004	- '007	- '013	- '003	- '055	- '013	- '020	+ '007
Indus Valley and North-West Rajputana.	+ '018	+ '074	- '016	+ '072	+ '070	+ '022	+ '008	- '012	- '013	- '063	- '007	- '024	+ '011
East Rajputana, Central India and Gujarat.	+ '007	+ '074	0	+ '049	+ '029	+ '029	- '031	- '006	- '014	- '057	+ '002	- '012	+ '006
Deccan	+ '006	+ '064	- '008	+ '023	+ '038	+ '021	- '045	- '006	- '007	- '066	- '002	- '015	0
West Coast	+ '013	+ '058	0	+ '009	0	- '002	- '043	- '011	- '020	- '030	+ '001	- '018	- '004
South India	+ '015	+ '056	- '011	+ '014	+ '023	+ '003	- '043	- '004	- '011	- '048	- '014	- '024	- '004

I.—The Cold weather period.—The mean 8 A.M. pressure of the Indian land area was above the normal during the period, the excess increasing from '016" in January to '068" in February. The departures of temperature from the normal in the two months were unusually small, and suggest that the excess of pressure over the Indian land area was determined by other causes in addition to the temperature.

This characteristic extended to Persia, Arabia and the equatorial region, and was hence probably common to the whole of southern Asia. In central Asia, as represented by Kashgar, and at Mauritius in the south of the Indian Ocean, pressure was on the contrary in defect by amounts averaging '033" and '019", respectively, for the period.

The following data illustrate these features :—

STATION.	DEPARTURE OF PRESSURE FROM NORMAL IN		
	January.	February.	Period, January and February.
	"	"	"
Kashgar	- '040	- '026	- '033
Bushire	+ '042	+ '108	+ '075
Jask	+ '025	+ '088	+ '057
Muscat	+ '020	+ '105	+ '063
Baghdad	+ '023	+ '093	+ '058
Aden	+ '011	+ '091	+ '051
Perim	+ '014	+ '095	+ '055
Zanzibar	+ '034	+ '062	+ '048
Seychelles	- '002	+ '032	+ '015
Mauritius	- '023	- '015	- '019

The local pressure anomalies, or excesses of local pressure departures above the mean pressure departure of India, were almost everywhere small and of little significance. There was a slight local excess of pressure over the

greater part of northern India and in Burma and a slight defect in the Peninsula. The local excess was greatest in Burma, where it averaged '01' and the local defect, in the Bombay Deccan ('016").

The following table shows the character and magnitude of the pressure anomalies in the various parts of India for the cold-weather period :—

PROVINCE OR DIVISION.	PRESSURE ANOMALY.		
	January.	February.	Period, January and February.
	"	"	"
Burma	+ '011	+ '009	+ '010
Assam	+ '008	+ '001	+ '005
Bengal	+ '005	+ '003	+ '005
Orissa	- '005	+ '002	- '002
Bihar	+ '002	+ '008	+ '005
Chota Nagpur	- '003	- '010	- '007
U. P. of Agra and Oudh . .	+ '001	+ '003	+ '002
Punjab	+ '003	+ '009	+ '006
Sind	+ '006	+ '004	+ '005
Rajputana	- '005	+ '003	+ '002
Gujarat	- '004	+ '010	+ '003
Central India	- '013	- '001	- '007
Central Provinces	- '012	0	- '006
Berar	- '008	0	- '004
West Coast	- '003	- '010	- '007
Bombay Deccan	- '014	- '018	- '016
Mysore	+ '001	- '016	- '008
Madras Coast	+ '001	- '006	- '003
Madras Deccan	- '002	- '001	- '002
South India	- '003	- '022	- '013

The pressure departures at the level of the hill stations were generally similar in character to those at the earth's surface: the excess in the former region was, however, comparatively small and the vertical anomalies were accordingly negative except in the case of Quetta, Murree, Ranikhet and Wellington.

The following gives data for ten pairs of stations:—

Hill and plain stations.	VERTICAL PRESSURE ANOMALY.		
	January.	February.	Period, January and February.
	"	"	"
Leh and Lahore	—'019	+ '015	—'002
Quetta and Jacobabad	+ '013	+ '030	+ '022
Murree and Pe-hawar	+ '002	+ '016	+ '009
Simla and Ludhiana	—'006	—'003	—'005
Chakrata and Roorkee	—'017	—'025	—'021
Ranikhet and Bareilly	+ '012	—'002	+ '005
Darjeeling and Dhubri	—'020	—'032?	—'026?
Mount Abu and Deesa	—'008	—'019	—'014
Pachmarhi and Hoshangabad	—'019	—'035?	—'027?
Wellington and Coimbatore	+ '004	0	+ '002

II. — The hot weather period.—The mean pressure of the Indian region was in moderate defect in March and in considerable excess in April and May.

The following gives data:—

MONTH.	DEPARTURE FROM NORMAL OF MEAN PRESSURE IN		
	Extra-tropical India.	Tropical India.	Whole India.
	"	"	"
March	—'026	—'006	—'016
April	+ '038	+ '016	+ '027
May	+ '046	+ '022	+ '034

On the mean of the whole period there was hence an excess of '015". The defect in March accompanied unsettled weather in north-western India and the surrounding mountain regions and a moderate to considerable deficiency of temperature over northern and western India.

The following statement shows the pressure conditions obtaining at the extra Indian stations for which data are available:—

STATION.	DEPARTURE FROM NORMAL OF PRESSURE IN			
	March.	April.	May.	Period, March to May.
	"	"	"	"
Kashgar	—'116	+ '021	—'089	—'061
Bushire	+ '005	+ '027	+ '040	+ '024
Jask	—'028	+ '031	+ '008	+ '004
Muscat	+ '051	+ '038	—'005	+ '028
Baghdad	—'035	—'048	+ '032	—'017
Aden	+ '014	+ '020	+ '033	+ '022
Perim	+ '029	+ '022	+ '040	+ '030
Zanzibar	+ '002	—'013	—'026	—'012
Seychelles	+ '006	—'010	—'030	—'011
Mauritius	—'059	—'015	+ '003	—'024

The following table shows the local features of the pressure distribution:—

PROVINCE OR DIVISION.	PRESSURE ANOMALY			
	March.	April.	May.	Period, March to May.
	"	"	"	"
Burma	+ '004	—'024	—'010	—'010
Assam	—'012	—'030	0	—'014
Bengal	—'008	—'022	+ '005	—'003
Orissa	—'017	—'005	+ '027	+ '001
Bihar	—'008	—'010	+ '005	—'004
Chota Nagpur	—'015	+ '001	+ '015	0
U. P. of Agra and Oudh	—'008	+ '013	+ '012	+ '005
Punjab	—'011	+ '037	+ '038	+ '021
Sind	+ '009	+ '044	+ '014	+ '022
Rajputana	+ '004	+ '030	+ '022	+ '019
Gujarat	+ '021	+ '011	—'026	+ '002
Central India	+ '002	+ '025	+ '014	+ '014
Central Provinces	+ '003	+ '004	+ '019	+ '009
Berir	+ 011	—'005	+ '005	+ '004
West Coast	+ '012	—'019	—'038	—'015
Bombay Deccan	+ '003	—'014	—'026	—'011
Mysore	+ 011	—'017	—'031	—'012
Madras Coast	—'004	—'011	+ '009	—'002
Madras Deccan	+ '005	—'016	—'011	—'007
South India	0	—'012	—'019	—'014

The data show that the only important features of the pressure distribution of the period were (1) a slight defect

in Assam and the west and south of the Peninsula, and (2) a slight to moderate excess in north-western and central India. The excess in Rajputana, Sind, Central India and the Central Provinces was persistent throughout the period. The following gives a fuller statement of the chief abnormal features of the pressure conditions during May :—

- (1) The mean pressure of the whole Indian area was on the mean of the month '035" above the normal and hence in large excess, in this respect resembling that of the corresponding months in 1877, 1878, 1885, 1889, and 1900.
- (2) Pressure was locally in excess over the area stretching from the north-west frontier to west Bengal, Orissa and the Circars. The excess was pronounced in the west Punjab and upper Sind, ranging between '04" and '05."
- (3) Pressure was, relatively to the general condition, in defect over part of north Bengal and of Assam, over Burma, the south, centre and west of the Peninsula and Gujarat. The deficiency was greatest over the West Coast districts from Veraval to Colombo and over the south of the Bay in which it exceeded '035." These anomalies strongly resembled those of May 1885.
- (4) Pressure was largely below the normal at Kashgar and moderately below in the equatorial region as represented by the Seychelles and Zanzibar. The pressure conditions were practically normal at Mauritius.

The vertical anomalies were negative during nearly the whole of the period; they were strongly marked in March and April but were generally small and of little significance in May. The chief feature of the vertical distribution of pressure was the large deficiency at the level of Leh, more especially in the first two months.

The following gives data for ten pairs of stations :—

HILL AND PLAIN STATIONS.	VERTICAL PRESSURE ANOMALY.			
	March.	April.	May.	Period, March to May
	"	"	"	"
Leh and Lahore . . .	—'120	—'086	—'055	—'087
Quetta and Jacobabad . . .	—'010	—'046	—'015	—'024
Murree and Peshawar . . .	—'044	—'047	—'047	—'046
Simla and Ludhiana . . .	—'024	—'039	—'010	—'034
Chakrata and Roorkee . . .	—'045	—'049	—'016	—'037
Ran khet and Bareilly . . .	—'005	—'023	+ '004	—'008
Darjeeling and Dhubri . . .	—'032	+ '015	+ '004	—'004
Mount Abu and Deesa . . .	—'034	—'018	+ '018	—'011?
Pachmarhi and Hoshangabad . . .	—'012	+ '009	—'005	—'003
Wellington and Coimbatore . . .	?	—'004	—'005	?

III.—The south-west monsoon period.—The abnormal features of the pressure conditions of this period were much less strongly marked than those of the hot weather season but were important in their relation to the distribution of the rainfall of the period.

The following is a brief summary of the chief features :—

- (1) The mean pressure of the Indian land area was in slight excess in June, in moderate defect in July and approximately normal in the next two months, as is shown in the following table :—

MONTH.	Extra-tropical India.	Tropical India.	Whole India.
	"	"	"
June	+ '018	+ '009	+ '013
July	—'006	—'043	—'025
August	—'009	—'004	—'007
September	+ '002	—'005	—'001

- (2) The local pressure anomalies varied considerably both in character and amount from month to month over the greater part of the country. In June pressure, relatively to the general mean, was in defect in the southern half of the Peninsula, the Gangetic plain and the Punjab, and was in excess over Burma, Assam, Sind, Rajputana and the northern half of the Peninsula. The excess in the last-named area accompanied a long delay in the establishment of the monsoon currents. The pressure anomalies in July were in great measure opposite in character to those of June, being positive over the greater part of northern India and Burma (areas of deficient rainfall) and negative over the Peninsula—the region of excessive precipitation during the month. In August the area of deficient pressure expanded considerably and embraced practically the whole of the Indian region excepting Burma and north-east India. The positive anomalies were most marked in Burma where they were associated with scanty rainfall. No significant change occurred in September except that the area of greatest excess was transferred to Bengal and the north of the Bay.

- (3) The only persistent features were the following :—

(a) Slight to moderate excess in Burma, Assam, Bengal, the Gangetic plain and Chota Nagpur.

(b) Slight deficiency in the west coast and south India.

- (4) The chief abnormal features of the vertical distribution of pressure are shown by the following

statement, giving the vertical anomalies for ten pairs of stations:—

HILL AND PLAIN STATIONS.	VERTICAL PRESSURE ANOMALY.				
	June.	July.	August.	Sep- tember.	Period, June to Sep- tember.
	"	"	"	"	"
Leh and Lahore	+ '033	+ '020	+ '010	+ '045	+ '027
Quetta and Jacobabad . . .	+ '018	+ '029	+ '040	+ '038	+ '031
Murree and Peshawar . . .	+ '003	— '017	+ '010	+ '030	+ '007
Simla and Ludhiana	+ '035	+ '041	+ '020	+ '027	+ '031
Chakrata and Roorkee . . .	+ '018	+ '039	+ '012	+ '004	+ '018
Ranikhet and Bareilly . . .	+ '010	+ '035	+ '010	+ '015	+ '018
Darjeeling and Dhubri . . .	— '010	+ '010	— '014	— '012	— '007
Mount Abu and Deesa	+ '007	+ '015	+ '011	+ '013	+ '012
Pachmarhi and Hoshangabad .	+ '009?	+ '017	+ '008	+ '010	+ '011?
Wellington and Coimbatore . .	+ '017	+ '007	0	+ '002	+ '007

The preceding data establish that —

- (a) Throughout the period there was a persistent relative excess of pressure at the level of the hill stations in north-west, central and southern India.
- (b) That the excess was largest in the case of Leh, Quetta and Simla and least in the case of Wellington: this probably indicates that the pressure gradient in the middle and upper strata between southern and north-west India was persistently below the normal value.
- (c) There was a slight relative defect of pressure at the level of Darjeeling in north-east India.
- (5) The following table gives data for the limiting stations of the Indian monsoon area:—

STATION.	DEPARTURE FROM NORMAL OF PRESSURE IN				
	June.	July.	August.	Sep- tember.	Period, June to Sep- tember.
	"	"	"	"	"
Kashgar	— '039	— '030	— '044	— '071	— '046
Bushire	+ '016	+ '002	— '005	— '009	+ '001
Jask	+ '037	+ '001	— '009	+ '007	+ '009
Muscat	— '027	— '073	— '080?	— '079?	— '065?
Baghdad	+ '004	+ '010	— '050	+ '003	— '008
Aden	+ '018	— '021	— '028	— '005	— '009
Perim	+ '011	— '026	— '025	+ '001	— '010
Zanzibar	— '040	— '031	— '029	+ '014	— '022
Seychelles	— '044	— '044	— '031	— '014	— '033
Mauritius	— '037	— '015	— '011	— '005	— '017

IV.—The retreating south-west monsoon period.—The pressure conditions were much more abnormal during this than the previous period and are summarized below:—

(1) The mean 8A.M. pressure of the Indian land area in October 1903 was '054" below the normal, the largest mean deficiency on record in the month of October. The local features of the pressure distribution were strongly marked and were opposite in character to those of September. The more noteworthy were:—

(a) Considerable deficiency of pressure in Orissa, Chota Nagpur, Central India, the Central Provinces and the eastern districts of the United Provinces.

(b) Moderate to considerable excess in lower Burma, Tenasserim, Ceylon, south Madras and Malabar.

The distribution was associated with excessive rain in Burma, Bengal, the United and Central Provinces and Central India and scanty rain in upper and southern India.

(2) The mean pressure of November was '009" below the normal, an increase of '045" since October. The local anomalies were in the great majority of cases small.

The chief were:—

(a) Locally deficient pressure in upper Burma, Assam, the whole of the Bengal Presidency, the United Provinces, Mysore and central Madras. The deficiency exceeded '02" at Sibsagar (—'032"), and at Yamethin and Minbu (each —'025").

(b) Local excess of pressure in lower Burma and western and central India. The excess was greatest over the central districts of the Central Provinces and Berar where it ranged between '020" and '027".

Heavier rain than usual was received during the month in Burma, Madras and Assam.

(3) In December the mean pressure was '018" below the normal. The local anomalies were similar in character to those of November but smaller in amount and, as in that month, were associated with abundant rain in Madras.

The following gives local pressure anomalies for each month and for the period in the various parts of India:—

PROVINCE OR DIVISION.	PRESSURE ANOMALY.			
	October.	November.	December.	Period, October to December.
	"	"	"	"
Burma	+ '024	— '003	— '002	+ '006
Assam	+ '004	— '020	+ '001	— '005
Bengal	— '004	— '019	+ '002	— '007
Orissa	— '025	— '019	— '003	— '016
Bihar	— '004	— '007	+ '007	— '001
Chota Nagpur	— '021	— '003	0	— '008

PROVINCE OR DIVISION.	PRESSURE ANOMALY.			
	October.	November.	December.	Period, October to December.
	"	"	"	"
U. P. of Agra & Oudh	—'013	—'007	0	—'007
Punjab	—'006	—'003	—'006	—'005
Sind	—'004	+ '009	+ '004	+ '003
Rajputana	—'003	+ '013	+ '002	+ '004
Gujarat	+ '012	+ '009	+ '005	+ '009
Central India	—'024	+ '010	+ '010	—'001
Central Provinces	—'025	+ '014	+ '010	0
Berar	—'011	+ '021	+ '011	+ '007
West Coast	+ '024	+ '010	0	+ '011
Bombay Deccan	+ '010	+ '003	0	+ '004
Mysore	+ '016	—'013	—'009	—'002
Madras Coast	—'010	—'001	—'003	—'005
Madras Deccan	—'003	—'009	—'009	—'007
South India	+ '020	0	—'004	+ '003

(4) During nearly the whole period pressure was relatively to the plains in excess at the hill stations in upper India and Baluchistan.

The following gives the vertical pressure anomalies for six pairs of stations in these areas:—

HILL AND PLAIN STATIONS.	VERTICAL PRESSURE ANOMALY.			
	October.	November.	December.	Period, October to December.
	"	"	"	"
Leh and Lahore	+ '045	—'013	+ '011	+ '014
Quetta and Jacobabad	+ '066	+ '016	+ '043	+ '042
Murree and Peshawar	+ '045	+ '008	+ '022	+ '025
Simla and Ludhiana	+ '032	+ '016	+ '008	+ '019
Chakrata and Roorkee	+ '021	—'002	+ '001	+ '007
Ranikhet and Bareilly	+ '036	+ '013	+ '012	+ '020

In other parts of India the vertical anomalies were generally positive in October and negative in the two succeeding months.

The following data illustrate these features:—

HILL AND PLAIN STATIONS.	VERTICAL PRESSURE ANOMALY.			
	October.	November.	December.	Period, October to December.
	"	"	"	"
Darjeeling and Dhubri	+ '025	—'008	—'001	+ '005
Mount Abu and Deesa	+ '003	—'010	—'005	—'004
Pachmarhi and Hoshangabad	+ '007	—'016	—'016	—'008
Wellington and Coimbatore	—'001	—'006	—'011	—'006

(5) The following data show the character of the pressure departures in Central Asia, Persia, Arabia and the Indian Ocean:—

STATION.	DEPARTURE FROM NORMAL OF PRESSURE IN			
	October.	November.	December.	Period, October to December.
	"	"	"	"
Kashgar	—'076	—'162	...	...
Bushire	—'047	+ '030	+ '012	—'002
Jask	—'060	—'005	0	—'022
Muscat	—'118?	—'070?	—'028	—'072?
Baghdad	+ '024	+ '019	+ '025	+ '023
Aden	—'020	+ '021	—'015	—'005
Perim	—'022	+ '021	—'012	—'004
Zanzibar	0	—'010	—'019	—'010
Seychelles	—'008	+ '018	—'011	0
Mauritius	+ '011	+ '013	+ '012	+ '012

The year.—The mean pressure of the Indian land area for the year (as determined from 10 and 16 hours' observations) agreed closely with the normal, being only '001" in excess.

The mean for tropical India was '002" in defect, while that for extra-tropical India was '004" in excess. The most noteworthy features of the pressure conditions during the year were the large excess in February and May and the large defect in October. The temperature data for the corresponding months show clearly that these large departures of pressure were not mere temperature effects.

The following gives the departures from normal of the

mean pressure of extra-tropical and tropical India, and also of the whole of India, month by month, during the year 1903 :—

MONTH.	DEPARTURE FROM NORMAL OF MEAN PRESSURE IN (FROM TABLE II).			Departure of temperature of whole India from Table II.
	Extra-tropical India.	Tropical India.	Whole India.	
January	+ '015	+ '015	+ '015	+ 0'4
February	+ '061	+ '050	+ '055	+ 0'2
March	— '026	— '006	— '016	— 1'4
April	+ '038	+ '016	+ '027	— 0'5
May	+ '046	+ '022	+ '034	+ 0'1
June	+ '018	+ '009	+ '013	+ 1'8
July	— '006	— '043	— '025	+ 1'2
August	— '009	— '004	— '007	+ 0'3
September	+ '002	— '005	— '001	+ 0'6
October	— '054	— '047	— '051	+ 0'7
November	— '016	— '013	— '015	— 0'6
December	— '022	— '021	— '022	— 0'7
Whole year	+ '004	— '008	+ '001	+ 0'2

The following gives the mean departures of the year for twenty divisions or areas :—

PROVINCE OR DIVISION.	Departure from normal of mean 8 A.M. pressure of year.	Pressure anomaly of year.
Burma	+ '010	+ '007
Assam	+ '007	+ '004
Bengal	+ '004	+ '001
Orissa	+ '004	+ '001
Bihar	+ '007	+ '004
Chota Nagpur	+ '002	— '001
United Provinces of Agra and Oudh	+ '004	+ '001
Punjab	+ '009	+ '006
Sind	+ '013	+ '010
Rajputana	+ '007	+ '004
Gujarat	+ '006	+ '003
Central India	+ '005	+ '002
Central Provinces	+ '004	+ '001
Berar	+ '006	+ '003
West Coast	— '004	— '007
Bombay Deccan	— '003	— '006
Mysore	— '005	— '008
Madras Coast	0	— '003
Madras Deccan	— '005	— '008
South India	— '005	— '008

The data show that the only areas in which the departures exceeded '009" in amount were Sind and Burma, and in these cases the mean pressure of the year was '013" and '010", respectively, above the normal.

The vertical pressure anomalies were in the great majority of cases small and negative, as is shown by the following data :—

PAIR OF STATIONS.	Vertical pressure anomaly of year.
Leh and Lahore	— '010
Quetta and Jacobabad	+ '017
Murree and Peshawar	— '002
Simla and Ludhiana	+ '008
Chakrata and Roorkee	— '005
Ranikhet and Bareilly	+ '010
Darjeeling and Dhubri	— '006
Mount Abu and Deesa	— '002
Pachmarhi and Hoshangabad	— '002
Wellington and Coimbatore	+ '001

The following gives the departures and progressive changes of the mean annual pressure of the past 29 years for the Indian land area :—

YEAR.	Number of stations.	Mean departure from normal.	Progressive change.
1875	33	— '007	...
1876	35	— '007	0
1877	59	+ '032	+ '039
1878	65	+ '002	— '030
1879	81	— '014	— '016
1880	93	— '003	+ '011
1881	93	+ '002	+ '005
1882	93	— '010	— '012
1883	105	— '005	+ '005
1884	107	+ '010	+ '015
1885	113	+ '014	+ '004
1886	118	— '003	— '017
1887	117	— '006	— '003
1888	109	+ '011	+ '017
1889	76	+ '004	— '007
1890	77	— '009	— '013
1891	72	+ '010	+ '019
1892	72	— '022	— '032

YEAR.	Number of stations.	Mean departure from normal.	Progressive change.	No.	Month.	Date.	Greatest observed barometric depression.	Character of storm.	Details of storm.
1893	66	—'001	+ '021	3	July	17th to 21st	'11"	Cyclonic storm of slight intensity.	This storm formed off the Orissa and Ganjam coasts on the 17th and 18th. It developed slightly on the 18th and advancing in a north-westerly direction crossed the Orissa coast on the morning of the 19th. It disappeared in Chota Nagpur during the next 36 hours.
1894	66	—'012	—'011						
1895	66	+ '003	+ '015						
1896	68	—'001	—'004						
1897	74	—'005	—'004						
1898	74	—'018	—'013						
1899	51	+ '004	+ '022						
1900	49	+ '010	+ '006						
1901	47	+ '005	—'005	4	July	21st to 25th	'23"	Cyclonic storm of moderate intensity.	The strongest winds experienced in the Bay during the existence of the storm were of force 8.
1902	46	+ '011	+ '006						
1903	46	+ '001	—'010						

The following is a statement of the cyclonic storms formed in the Bay of Bengal, the Arabian Sea, and the land area of India during the south-west monsoon of 1903, drawn up in the same form as in previous years. The tracks of the more important of these storms are given in Plate VI at the end of the summary :—

BAY OF BENGAL.

No.	Month.	Date.	Greatest observed barometric depression.	Character of storm.	Details of storm.
1	June	24th to 27th	'14"	Cyclonic storm of slight intensity.	This storm formed at the head of the Bay on the 24th under the usual conditions of storm generation during the rains. It crossed the coast on the morning of the 25th and travelling in a north-westerly direction passed into Chota Nagpur. It then changed its course and marching northwards filled up in north Bihar on the 27th. The storm was throughout its existence feeble and exercised no great influence on the weather.
2	July	11th to 14th	'27"	Cyclonic storm of moderate intensity.	This storm originated over the north-west of the Bay on the 11th. It crossed the coast during the 13th and passed into Orissa where it broke up almost completely during the 14th. Although of moderate intensity the storm gave comparatively light rain along its path.
3	July	17th to 21st	'11"	Cyclonic storm of slight intensity.	This storm formed off the Orissa and Ganjam coasts on the 17th and 18th. It developed slightly on the 18th and advancing in a north-westerly direction crossed the Orissa coast on the morning of the 19th. It disappeared in Chota Nagpur during the next 36 hours.
4	July	21st to 25th	'23"	Cyclonic storm of moderate intensity.	This storm originated over the head of the Bay on the 21st and 22nd, and marched in a westerly direction, crossing the coast between False Point and Balasore on the 23rd. It continued to advance westwards and on the morning of the 24th was central near Raipur. It decreased rapidly in intensity during the following 24 hours as it advanced northwards into the eastern states of Central India and the neighbouring districts of the Central Provinces. The residual depression filled up during the 26th.
5	July—August.	31st July to 5th August.	'17"	Cyclonic storm of feeble intensity.	The storm occasioned moderate to heavy rain in Orissa, the Central Provinces and the west of Central India. This storm formed over the north-west angle of the Bay during the 31st of July. It crossed the coast during the 1st August and travelling along a north-westerly course passed into Baghelkhand on the 3rd. It then recurred to north-east and on the 4th lay over the south-eastern districts of the United Provinces: it filled up in that position during the next 24 hours. The storm gave a much needed burst of rain in the Gangetic plain.
6	August	28th to 31st	'21"	Cyclonic storm of moderate intensity.	The passage inland of the storm was followed by the setting in of strong south-westerly gales (force 9) in the north of the Bay. This storm originated in the north-west of the Bay on the 28th and passed inland across the Ganjam coast on the morning of the 30th. It thence advanced quickly along a north-westerly track into the eastern districts of the Central Provinces where it broke up on the 1st of September. The storm determined moderately heavy rain to the Central Provinces and the Peninsula. The vessels to the east and south of the storm experienced winds ranging in force between 6 and 9.

No.	Month.	Date.	Greatest observed barometric depression.	Character of storm.	Details of storm.	No.	Month.	Date.	Greatest observed barometric depression.	Character of storm.	Details of storm.
7	September.	14th to 20th	"13"	Fecble cyclonic storm.	<p>This storm was generated off the Circars coast on the 14th and 15th. It began to march westwards during the next 24 hours and passed through the Central Provinces on the 17th and 18th into Gujarat on the 19th and filled up in west Gujarat during the next 36 hours. It gave moderate to heavy rain to the area traversed by it.</p> <p>The strongest winds in the Bay during its existence did not exceed 6 in force.</p>	10	November.	3rd to 9th	"18"	Cyclonic storm of slight intensity.	<p>recurved to north-east, and on the 7th lay to the north-east of Madras: it filled up slowly in that locality during the next two days.</p> <p>The storm although of slight intensity occasioned very heavy rain in the southern half of the Peninsula, resulting in extensive floods.</p> <p>The strongest winds experienced by vessels did not exceed 6 in force.</p>
8	October	3rd to 11th	"37"	Cyclonic storm of moderate to considerable intensity.	<p>This storm formed off the Orissa and Ganjam coasts on the 3rd and 4th and crossed the coast near Puri on the morning of the 5th. From there it advanced in a north-westerly direction reaching Jhansi on the 9th. It then recurved to east and was central between Allahabad and Jhansi on the 10th and near Sutna on the morning of the 11th. It decreased rapidly in intensity during the next 24 hours, and on the morning of the 12th was a diffused low pressure area of little importance.</p> <p>The storm was noteworthy for the heavy burst of rainfall which it gave to the United Provinces, Central India and Bengal.</p> <p>The strongest winds experienced by vessels in the Bay were of force 8 to 10.</p>	11	November.	12th to 15th	"8(?)	Cyclonic storm of considerable intensity.	<p>This storm apparently originated in the centre of the Bay on the 12th and marching by a curved path crossed the Arakan coast near Akyab on the 15th. It disappeared completely by the morning of the 16th under the obstructive action of the Arakan hills.</p> <p>It was probably a disturbance of considerable intensity; the strongest winds actually experienced by vessels involved in it were of force 8.</p> <p>The storm gave a moderate burst of rain in Burma, chiefly in the coast districts.</p>
9	October	27th to 31st	At least half an inch.	Cyclonic storm of considerable intensity.	<p>This storm formed off the Coromandel coast during the 27th, and marching north-westwards crossed the coast near Cocanada about noon on the 29th. It then changed its course, and advancing along a north-north-westerly to north-easterly track passed into Orissa and the adjoining districts of Chota Nagpur where it broke up during the 31st.</p> <p>Winds of force 10 were experienced by vessels within the storm area.</p> <p>The storm gave moderate to heavy rain in Arakan, Bengal, Orissa and the Circars.</p>	12	November.	24th to 28th.	"11"	Cyclonic storm of slight intensity.	<p>This storm formed to the west of the Little Andamans on the 24th, and marching in a westerly to north-westerly direction across the Bay reached the neighbourhood of the Madras coast on the 27th. It however failed to cross the coast and broke up over the sea during the next 36 hours.</p> <p>Although a diffused depression it gave a heavy burst of rain in the central coast districts of Madras. The strongest winds experienced by vessels were of force 7.</p>
10	November.	3rd to 9th	"18"	Cyclonic storm of slight intensity.	<p>This storm formed to the west of the Little Andamans on the 3rd, travelled westwards on the 4th and 5th and struck the Coromandel coast near Madras on the 6th, diminishing considerably in intensity at the same time. Being unable to surmount the East Ghâts the residual disturbance</p>	13	December.	27th to 30th.	"15"	Cyclonic storm of slight intensity.	<p>This storm formed in the extreme south-west of the Bay to the east of Ceylon on the 27th. It advanced north-westwards on the 28th and 29th and crossed the south Coromandel coast near Cuddalore on the morning of the 30th. It apparently disappeared rapidly in south-central Madras during the day.</p> <p>The storm although fecble was remarkable for the heavy rain it gave to the south Coromandel coast districts of Madras. The strongest winds recorded on board vessels were of force 6 to 7.</p>

Arabian Sea.

No.	Month.	Date.	Greatest observed barometric depression.	Character of storm.	Details of storm.
1	May	21st to 25th.	'36"	Cyclonic storm of considerable intensity.	This storm originated off the south Konkan coast during the 21st. It advanced northwards parallel to the coast on the 22nd and 23rd, developing at the same time, and on the morning of the 24th was a small concentrated disturbance with its centre about 60 miles to the west-by-south of Bombay. It apparently filled up over the Gulf of Cambay during the day. The S. S. <i>Johannisberger</i> near the centre experienced winds of hurricane violence and a very high cross sea.
2	June	12th to 18th	'95"	Severe cyclonic storm or cyclone.	This storm formed in the east of the Arabian Sea on the 12th and 13th: it began to march in a north-westerly direction on the 14th, and was central about 160 miles to the west by south of Veraval at 8 A. M. of the 15th. During the following two days it advanced west-north-westwards, and on the morning of the 17th lay off the Arabian coast with its centre about 170 miles to the east-by-south of Rasal Had. Nothing definite is known about its future career, but it is probable that it either broke up on the 18th against the Arabian coast or passed into Arabia. The S. S. <i>Sofala</i> , which was involved in the inner storm area, experienced winds of force 10 to 12, a high sea and blinding rain. The storm was probably a concentrated disturbance of great intensity during the last two days of its existence over the Arabian Sea, and may have been a true cyclone with a calm centre.
3	July	13th to 17th	'28"	Cyclonic storm of moderate intensity.	This storm formed in the vicinity of the Kathiawar coast on the 13th, and drifting slowly in a north-easterly to northerly direction through Kathiawar during the next three days disappeared over Cutch by the morning of the 17th. The strongest winds experienced along the Sind and Kathiawar coasts during the existence of the storm were of force 7.

Northern India.

No.	Month.	Date.	Greatest observed barometric depression.	Character of storm.	Details of storm.
1	August	6th to 9th.	'16"	Storm of slight intensity.	This storm originated in deltaic Bengal on the 6th, and advancing in a west-north-westerly direction along the axis of the monsoon trough of low pressure on the 7th and 8th, disappeared in the south-east Punjab by the morning of the 9th. Although of slight intensity the storm determined heavy rain to Bundelkhand, Baghelkhand, the eastern half of Rajputana and the south-west of the United Provinces.
2	August	25th to 28th	'23"	Storm of moderate intensity.	This storm formed in the central districts of the United Provinces on the 25th, and drifting very slowly eastwards through the eastern districts on the 26th and 27th broke up in west Bihar during the 28th. The storm was noteworthy for the heavy downpours of rain which it occasioned in the eastern districts of the United Provinces, several stations obtaining from 10 to 15 inches in 24 hours.
3	September.	10th to 15th	'21"	Cyclonic storm of moderate intensity.	This storm formed over deltaic Bengal during the 10th, and advancing west-north-westwards through Chota Nagpur on the 12th and the south-eastern districts of the United Provinces on the 13th and 14th filled up in the neighbourhood of Cawnpore on the 15th. The storm was remarkable for the heavy rain it gave along its path.
4	September—October.	27th September to 2nd October.	'17"	Cyclonic storm of slight intensity.	This storm formed over deltaic Bengal during the 27th. It drifted westwards to the north-eastern districts of the Central Provinces during the next few days, and occasioned moderate to heavy rain in Orissa, Chota Nagpur, the east of the United Provinces and of Central India, and the greater part of the Central Provinces.

Winds.

The mean direction of the wind and the mean diurnal movement of the air, as measured by Robinson anemometers, are given for all second class stations in Table II in each monthly review. The normal values are also stated for the sake of ready comparison. The normal data of these elements, utilized in Table II of the Monthly Weather Reviews of the year 1903, will be found in a collected form in Tables XI and XII of the Annual Summary for 1896 (pages 638-644). The mean 8 A.M. wind directions for each month are laid down in the first chart in each monthly review. They are calculated in the usual manner by Lambert's formula from the 8 A.M. wind data given in Table I in each monthly review. As a general rule, the mean 8 A.M. wind directions vary little from the mean wind directions (calculated from the 10 and 16 hours wind data) in Table II of each Monthly Review, but in some cases and at certain seasons of the year they differ very considerably.

The chief features of the air movement over India in 1903 have been described in the monthly reviews of the year. The following is a summary of the more important features for each period:—

I.—The cold weather period.—The cold weather season of 1903 was characterized by an almost entire absence of cold weather storms and scanty precipitation and as usually happens under these conditions the air movement was feebler than usual throughout the country, the feebleness being on the whole most marked in northern India.

The following gives data showing the percentage departure of the air movement, month by month, and also for the period:—

PROVINCE OR DIVISION.	PERCENTAGE DEPARTURE FROM NORMAL OF MEAN DAILY AIR MOVEMENT IN		
	January.	February.	Period, January and February.
Burma	+ 7	— 7	0
Bengal	— 19	+ 2	— 9
Orissa	— 16	— 15	— 16
Bihar	— 67	— 56	— 62
Chota Nagpur	— 25	— 8	— 17
United Provinces of Agra and Oudh.	— 20	— 11	— 16
Punjab	— 28	— 38	— 23
Sind	— 40	— 31	— 36
Rajputana	— 13	— 11	— 12
Central Provinces	+ 3	— 15	— 6
Berar	— 22	— 15	— 19
West Coast	—	+ 4	— 1
Bombay Deccan	— 7	— 6	— 7
Mysore	— 8	+ 3	— 3
Madras Coast	— 18	+ 10	— 4
Madras Deccan	— 9	— 2	— 6
South India	— 15	+ 13	— 1

The comparative absence of cold weather storms led also to the winds being steadier than usual in north-western India and irregular in the Central Provinces, the Deccan and the east of the Gangetic plain.

The following data illustrate these features:—

PROVINCE OR DIVISION.	PERCENTAGE DEPARTURE FROM NORMAL OF WIND STEADINESS IN		
	January.	February.	Period, January and February.
Bihar	— 27	— 40	— 34
Chota Nagpur	— 17	— 16	— 17
United Provinces of Agra and Cudh	+ 4	+ 6	+ 5
Punjab	+ 6	+ 4	+ 5
Sind	+ 8	— 4	+ 2
Rajputana	+ 16	+ 3	+ 10
Central Provinces	— 18	+ 1	— 9
Bombay Deccan	+ 3	—	— 3
Mysore	— 9	— 13	— 11
Madras Deccan	— 19	— 11	— 15

The direction of the air movement agreed fairly closely with the normal except in Burma and the Bay Islands where it was persistently more northerly than usual, and in the interior of the Peninsula where it was unusually southerly in January and somewhat irregular in February.

The following gives data in illustration:—

STATION.	WIND DIRECTION.			
	JANUARY.		FEBRUARY.	
	Actual, 1903.	Normal.	Actual, 1903.	Normal.
	0	0	0	0
Port Blair	N 36 E	N 41 E	N 42 E	N 45 E
Rangoon	N 2 E	N 27 E	N 22 W	S 45 W
Diamond Island	N 2 E	N 1 W	N 14 W	N 32 W
Belgaum	S 55 E	S 75 E	N 50 E	S 62 E
Sholapur	S 41 E	S 59 E	S 6 E	S 43 E
Khandwa	2 E	N 21 E	N 9 W	N 14 W
Nagpur	S 17 W	N 71 E	S 74 W	N 42 E
Bangalore	S 79 E	N 88 E	S 77 E	S 69 E
Hassan	S 88 E	N 87 E	N 83 E	S 85 E
Mysore	S 86 E	N 82 E	S 69 E	N 87 E
Bellary	S 45 E	S 68 E	S 48 E	S 57 E

At most of the Himalayan hill stations and in Baluchistan there was less air movement than usual, as is shown by the following data :—

STATION.	DEPARTURE FROM NORMAL OF MEAN DAILY AIR MOVEMENT IN		
	January.	February.	Period, January and February.
Quetta	— 14	— 40	— 27
Srinagar	— 24	+ 15	— 5
Chakrata	+ 39	+ 46	+ 43
Ranikhet	— 5	+ 5	0
Katmandu	— 2	— 9	— 6
Darjeeling	+ 3	— 20	— 9

Over the Satpuras and Aravalli ranges on the other hand winds were considerably stronger than usual, *e. g.* —

STATION.	DEPARTURE FROM NORMAL OF MEAN DAILY AIR MOVEMENT IN		
	January.	February.	Period, January and February.
Mount Abu	+ 37	+ 22	+ 30
Chikalda	+ 45	+ 36	+ 41

As in the plains, the steadiness was greater than usual at the great majority of the hill stations, markedly so at Leh. The following data for four representative stations illustrate this feature :—

STATION.	PERCENTAGE DEPARTURE FROM NORMAL OF MEAN WIND STEADINESS IN		
	January.	February.	Period, January and February.
Leh	+ 35	+ 50	+ 43
Chakrata	+ 11	+ 28	+ 20
Darjeeling	+ 34	— 11	+ 12
Pachmarhi	+ 24	0	+ 12

Although weaker than usual over the land area of India, the winter monsoon was above its normal intensity throughout the period in the Bay of Bengal and Arabian Sea, as is shown by the following data :—

AREA.	DEPARTURE OF MEAN DAILY FORCE OF WIND (BEAUFORT'S NOTATION) IN			Normal mean strength of winds during period.
	January.	February.	Period, January and February.	
Bay of Bengal . . .	+ 0.1	+ 0.5	+ 0.3	2.8
Arabian Sea	+ 0.1	+ 0.4	+ 0.3	3.2

II.—The hot weather period :—Strongly marked cold weather conditions prevailed in north-west India during March in consequence of the advance into that region of a succession of storms of the cold weather type from Persia. These storms were fairly deep depressions and occasioned heavy falls of snow in the mountain region bordering the Punjab on the north and west and frequent showers in the plains of northern India. Finer weather than usual obtained in April and the first fortnight of May. Unsettled weather again set in about the 14th of May and continued almost uninterruptedly during the remainder of the month.

Temperature was in persistent defect in upper and Central India and the north Deccan, an indication that the hot weather conditions in these areas were not so strongly marked as usual. Temperature was, on the other hand, higher than usual in the region of deficient rainfall in north-east India and Burma.

The chief features of the air movement of the period in northern India were the following :—

- (1) Winds were of approximately normal strength and steadiness in Burma.
- (2) Winds were slightly stronger than usual in lower and east Bengal in March and May and somewhat below their normal intensity in April. The most important feature, was the abnormally large westing in the wind's direction in April and May, an indication that the usual influx of humid air across the Bengal coast was deflected away to some extent from Bengal. Winds were throughout the period feebler and more southerly than usual in Orissa.

The following data for four stations illustrate the abnormal deflection of winds at the head of the Bay :—

STATION.	WIND DIRECTION.					
	MARCH.		APRIL.		MAY.	
	Actual, 1903.	Normal.	Actual, 1903.	Normal.	Actual, 1903.	Normal.
Chittagong . . .	...	...	S 45 W	S 9 W	S 18 W	S 1 E
Calcutta . . .	...	...	S 37 W	S 7 W	S 22 W	S 7 E
Saugor Island . .	...	...	S 24 W	S 14 W	S 11 W	S 8 W
False Point . .	S 10 W	S 50 W	S 18 W	S 31 W	S 11 W	S 23 W

- (3) Winds were unusually light in Bihar throughout the season.
- (4) Winds were on the mean of the period stronger and steadier than usual in the United Provinces and Chota Nagpur.
- (5) Winds were less vigorous than usual in the Punjab, Sind and Rajputana, more especially, in April and May. They were on the whole of normal steadiness.
- (6) Winds were on the whole above their normal intensity at the Himalayan hill stations and in the Aravallis, but were feeble than usual in Baluchistan and Ladakh.

The following gives data showing the percentage departure from the normal of the air movement, month by month, during the period in northern India :—

PROVINCE OR DIVISION.	PERCENTAGE DEPARTURE FROM NORMAL OF MEAN WIND STEADINESS IN				PERCENTAGE DEPARTURE FROM NORMAL OF MEAN DAILY AIR MOVEMENT IN			
	March	April	May	Period, March to May.	March	April	May	Period, March to May.
Burma . . .	-10	0	5	-5	+10	-6	-11	-2
Bengal . . .	+6	-12	+10	+1	+6	-3	+12	+5
Orissa . . .	+23	+6	+12	+14	-14	-18	-15	-16
Bihar . . .	-10	+18	-21	-4	-40	-44	-53	-46
Chota Nagpur . .	+1	+7	+40	+16	+11	+7	-16	+1
United Provinces of Agra and Oudh.	+1	+24	+18	+14	+24	+14	-4	+15
Punjab . . .	-6	+16	+21	+10	+10	-9	-18	-
Sind . . .	-1	-7	-1	-3	-8	-28	-29	-22
Rajputana . . .	+21	-12	-3	+2	-5	-12	-28	-15

The following gives corresponding data for the Peninsula :—

PROVINCE OR DIVISION.	PERCENTAGE DEPARTURE FROM NORMAL OF MEAN WIND STEADINESS IN				PERCENTAGE DEPARTURE FROM NORMAL OF MEAN DAILY AIR MOVEMENT IN			
	March	April	May	Period, March to May.	March	April	May	Period, March to May.
Central Provinces .	+3	-2	-25	-8	+24	+9	-27	+2
Berar . . .	+12	-15	-29	-11	+12	-5	-20	-4
West Coast . . .	+9	+7	-10	+2	+1	-6	-8	-4
Bombay Deccan . .	+19	-10	-23	-5	-6	-11	+33	+5
Mysore . . .	-12	+17	-38	-11	-8	-2	-17	-9
Madras Coast . .	+1	-3	-13	-5	+2	-15	-25	-14
Madras Deccan . .	+5	+16	-29	-8	-7	-1	-25	-11
South India . . .	-9	0	-13	-7	-4	-10	-28	-14

These data indicate that on the whole the air movement in this area was neither so steady nor so strong as usual.

The following data for the Bay of Bengal and Arabian Sea show that on the mean of the whole period the air movement in these areas was almost identical with the normal :—

AREA.	DEPARTURE OF MEAN DAILY FORCE OF WIND (BEAUFORTS NOTATION) IN				Normal mean strength of winds during period.
	March.	April.	May.	Period, March to May.	
Bay of Bengal . .	+0.2	0	+0.2	+0.1	2.7
Arabian Sea . . .	+0.2	+0.1	-0.5	-0.1	2.9

III.—The south-west monsoon period.—The monsoon rains commenced later than usual on the Bombay coast. The Arabian Sea current was weak, until about the middle of July when it improved and was moderately strong during the next four weeks. It then fell off again until the 9th of September when a final advance into north-west India occurred. The current retreated finally from upper India about the middle of September. The Bay current set in about the normal date, but failed to extend into the Gangetic plain, where hot weather conditions prevailed until the beginning of August. It gave abundant rain to the whole of the region usually served by it in August and September and to north-east India and Burma in October. It withdrew finally near the end of October.

A noteworthy feature of the lower air motion in the Indian land area was the feebleness of the Arabian Sea current throughout the period. The Bay of Bengal current was, on the whole, above its normal strength at the coast, and weaker than usual at the interior, stations.

These features are shown by the following data derived from the anemometric records of four coast and four inland stations under the full influence of the two currents :—

MONTH.	PERCENTAGE DEPARTURE FROM NORMAL OF MEAN DAILY AIR MOVEMENT.			
	BAY OF BENGAL CURRENT.		BOMBAY CURRENT.	
	Four coast stations.	Four inland stations.	Four coast stations.	Four inland stations.
June . . .	+12	-12	-18	-20
July . . .	+3	+4	-9	-3*
August . . .	+15	-2	-4	-16
September . . .	-4	-22	-7	-26
Mean of period . .	+7	-8	-10	-16

* Mean of 3 stations.

The following table gives corresponding data for the steadiness of the two currents:—

MONTH.	DEPARTURE FROM NORMAL OF PERCENTAGE OF MEAN WIND STEADINESS.			
	BAY OF BENGAL CURRENT.		BOMBAY CURRENT.	
	Four coast stations.	One inland station.	Three coast stations.	Four inland stations.
June	+ 14	+ 21	- 7	+ 7
July	+ 2	+ 4	- 4	- 5
August	+ 14	+ 8	+ 9	- 1
September	+ 19	+ 10	+ 3	+ 5
Mean of period	+ 12	+ 11	0	+ 2

The data show that while the Bay current was unusually steady over the whole of its field, the Bombay current varied irregularly and during half of the period in opposite directions at the coast and inland stations; on the mean of the whole period it was however of approximately normal steadiness.

The comparative data given in the following table of the mean actual and normal force of the winds derived from the meteorological information contained in the logs of vessels navigating the Indian seas, indicate that on the mean of the whole period the air movement was below the normal to a moderate extent (7 per cent.) in the Arabian Sea and to a slight extent (3 per cent.) in the Bay of Bengal, the weakness in the latter region being shown solely in August and September.

The estimates of wind force are, it may be noted, chiefly derived from the data of vessels following four or five tracks in these seas and hence do not necessarily represent the conditions over the whole area. They however almost certainly establish that the current in the Arabian Sea was below its normal intensity throughout the period:—

MONTH.	MEAN DAILY FORCE OF WIND (BEAUFORT'S NOTATION) IN THE					
	Bay of Bengal.			Arabian Sea.		
	Actual.	Normal.	Departure from normal.	Actual.	Normal.	Departure from normal.
June	4'0	4'0	0	3'9	4'5	-0'6
July	4'2	4'0	+0'2	4'5	4'6	-0'1
August	3'9	4'0	-0'1	3'8	4'3	-0'5
September	3'1	3'7	-0'6	3'3	3'5	-0'2
Mean of period	3'8	3'9	-0'1	3'9	4'2	-0'3

The following summarises the chief features of the air movement:—

(1) Winds were throughout the period more westerly than usual in the Bay Islands and on the Arakan coast and were more southerly than usual in Orissa and east Bengal.

The following data illustrate these features:—

STATION.	DEFLECTION FROM NORMAL IN DEGREES.				
	June.	July.	August.	September.	Period June to September.
	Increased westing.				
Port Blair	10	18	11	11	13
Akyab	6	18	5	16	11
Chittagong	Increased southing.				
False Point	24	25	24	22	24
	11	31	2	- 4	10

(2) Winds were on the mean of the period steadier than usual over Burma and northern India excepting Sind. They were stronger than usual in Bengal, Orissa and the United Provinces and below their normal intensity in Burma, Bihar, Chota Nagpur and north-west India. The weakness was most marked in Bihar where, as is shown in the following table, the mean wind velocity was 39 per cent. below the normal on the average of the whole period:—

PROVINCE OR DIVISION.	PERCENTAGE DEPARTURE FROM NORMAL OF MEAN WIND STEADINESS IN					PERCENTAGE DEPARTURE FROM NORMAL OF MEAN DAILY AIR MOVEMENT IN				
	June.	July.	August.	September.	Period, June to September.	June.	July.	August.	September.	Period, June to September.
Burma	0	+ 3	+ 8	+ 4	+ 4	- 6	- 13	- 12	- 32	- 16
Bengal	+ 11	+ 4	+ 9	+ 10	+ 9	+ 15	+ 33	+ 25	+ 3	+ 14
Orissa	+ 20	- 23	+ 15	+ 33	+ 11	+ 2	- 8	+ 11	+ 2	+ 2
Bihar	- 2	+ 31	- 10	+ 6	+ 6	- 33	- 17	- 42	- 64	- 39
Chota Nagpur	+ 10	+ 25	+ 13	+ 20	+ 17	- 7	+ 9	- 14	- 11	- 6
United Provinces of Agra and Oudh.	+ 10	+ 13	+ 14	+ 22	+ 15	+ 14	+ 20	- 1	- 29	+ 1
Punjab	+ 6	- 5	+ 2	+ 1	+ 1	- 6	- 7	- 4	- 23	- 10
Sind	- 9	- 16	+ 7	+ 6	- 3	- 11	- 23	- 3	- 7	- 11
Rajputana	+ 32	- 11	+ 7	- 6	+ 6	- 2	- 16	- 7	- 36	- 15

(3) The air movement was very abnormal in direction in the eastern Himalayas as represented by Darjeeling where abnormal south-south-east winds prevailed in June and south-south-west to west-south-west winds during the next three months.

The following gives data in illustration :—

MONTH.	WIND DIRECTION.	
	Actual, 1903.	Normal.
	o	o
June	S 29 E	S 9 W
July	S 13 W	S 75 E
August	S 16 W	S 81 E
September	S 69 W	S 58 E

(4) Winds were stronger and steadier than usual at all the hill stations in northern and central India with the exception of Simla and Chikalda. They were of normal steadiness but feebler than usual in Baluchistan.

STATION.	PERCENTAGE DEPARTURE FROM NORMAL OF MEAN WIND STEADINESS IN					DEPARTURE FROM NORMAL OR MEAN DAILY AIR MOVEMENT IN				
	June.	July.	August.	September.	Period, June to September.	June.	July.	August.	September.	Period, June to September.
Quetta	+ 1	- 1	+ 6	- 10	- 1	- 48	- 42	- 38	- 40	- 42
Leh	+ 2	+ 17	+ 13	+ 11	+ 11	+ 16	+ 2	+ 10	o	+ 7
Srinagar	+ 15	- 6	+ 11	+ 16	+ 9	+ 46	+ 20	- 8	- 3	+ 14
Simla	+ 15	- 15	- 3	- 23	- 7	+ 1	- 12	- 23	- 50	- 21
Chakrata	+ 42	+ 19	+ 25	+ 36	+ 31	+ 139	+ 147	+ 111	+ 63	+ 115
Ranikhet	+ 16	+ 9	+ 9	+ 3	+ 9	+ 20	+ 17	+ 5	+ 8	+ 13
Katmandu	- 3	+ 11	+ 26	+ 18	+ 13	+ 6	+ 12	+ 10	+ 5	+ 8
Darjeeling	+ 5	- 13	+ 9	+ 34	+ 9	- 65	- 23	- 9	- 12	- 27
Mount Abu	+ 9	- 34	- 1	+ 3	- 6	+ 49	- 63	+ 43	+ 15	+ 11
Pachmarhi	+ 20	- 13	+ 4	+ 15	+ 7	+ 67	- 17	+ 73	+ 61	+ 46
Chikalda	- 2	- 15	- 38	- 32	- 22	- 9	- 30	- 96	- 75	- 53

(5) Over by far the greater part of the Peninsula the air movement was, as in northern India, feebler than usual: the weakness was shown chiefly in June and September, and was most marked in the Central Provinces, the Madras coast districts and South India.

The following gives data :—

PROVINCE OR DIVISION.	PERCENTAGE DEPARTURE FROM NORMAL OF MEAN DAILY AIR MOVEMENT IN				
	June.	July.	August.	September.	Period, June to September.
Central Provinces	-34	-16	- 2	-28	-20
Berar	+14	+ 1	+ 4	-13	+ 2
West Coast	-29	- 8	- 9	- 1	-12
Bombay Deccan	-13	+ 7	- 1	-16	- 6
Mysore	-23	+ 5	-11	-20	-12
Madras Coast	-16	-13	-12	-28	-17
Madras Deccan	-12	+ 2	- 7	-13	- 8
South India	-28	-10	+ 5	-20	-13

(6) Winds were steadier than usual in Berar, the West Coast and the Bombay Deccan, but were remarkably unsteady in South India. The following table gives data of steadiness in the various divisions of the Peninsula :—

PROVINCE OR DIVISION.	PERCENTAGE DEPARTURE FROM NORMAL OF MEAN WIND STEADINESS IN				
	June.	July.	August.	September.	Period, June to September.
Central Provinces	+ 4	-14	- 1	+ 2	- 2
Berar	- 7	- 4	+ 8	+ 16	+ 3
West Coast	-11	- 1	+ 12	+ 2	+ 1
Bombay Deccan	- 5	+ 1	- 3	+ 11	+ 1
Mysore	- 8	- 2	- 3	o	- 3
Madras Coast	-11	+ 7	+ 6	-10	- 2
Madras Deccan	8	- 2	o	+ 6	- 1
South India	-23	-14	-17	- 21	-19

(7) There were no large or persistent modifications of the direction of the air movement over the Peninsula except on the Bombay coast, where winds were more southerly during the first half and rather more westerly than usual during the second half of the period.

The following data for Bombay illustrate these features.

MONTH.	WIND DIRECTION.	
	Actual, 1903.	Normal.
June	S 54 W	S 64 W
July	S 63 W	S 74 W
August	S 87 W	S 81 W
September	N 88 W	N 84 W

(8) The air movement was stronger than usual at Zanzibar and of approximately normal intensity at the Seychelles. Winds contained an abnormal westerly element in their direction at Zanzibar in June, August and September.

At the Seychelles they were practically normal in direction during the first three months, and more southerly than usual in September. The following gives data for these two stations:—

STATION.	WIND DIRECTION.							
	JUNE.		JULY.		AUGUST.		SEPTEMBER.	
	Actual.	Normal.	Actual.	Normal.	Actual.	Normal.	Actual.	Normal.
Zanzibar	S 1 W	S 4 E	S 5 E	S 5 E	S 1 W	S 9 E	S 1 W	E
Seychelles	S 24 E	S 21 E	S 28 E	S 29 E	S 35 E	S 36 E	S 28 E	S 41 E

STATION.	PERCENTAGE DEPARTURE FROM NORMAL OF MEAN DAILY AIR MOVEMENT IN				
	June.	July.	August.	September.	Period, June to September.
Zanzibar	+5	+12	+9	+21	+12
Seychelles	-2	+9	-4	+1	+1

IV.—The retreating south-west monsoon period.—The following gives the more important features of the air movement in northern India and Burma during this period.—

(a) Winds were feeble than usual over the whole of northern India with the exception of Chota Nagpur and the United Provinces, where they were slightly above their normal strength. The air movement was unusually light in Bihar and the Punjab where it was of barely half its normal intensity.

The steadiness was everywhere above the average except in Bihar.

The following gives data in illustration:—

PROVINCE OR DIVISION.	PERCENTAGE DEPARTURE FROM NORMAL OF MEAN WIND STEADINESS IN				PERCENTAGE DEPARTURE FROM NORMAL OF MEAN DAILY AIR MOVEMENT IN			
	October.	November.	December.	Period, October to December.	October.	November.	December.	Period, October to December.
Burma	+24	-16	+14	+7	-13	-15	+2	-9
Bengal	-5	-8	+13	+2	-34	+20	+4	-3
Orissa	-1	+14	+8	+7	+27	-6	-15	+2
Bihar	+23	-20	-24	-7	-38	-63	-55	-52
Chota Nagpur	-14	+23	+8	+6	+26	+10	-1	+12
United Provinces of Agra and Oudh.	-10	+22	+14	+9	+6	+5	+3	+5
Punjab	0	+15	+10	+8	-46	-33	-42	-4
Sind	+9	+11	-12	+3	-4	-24	-36	-21
Rajputana	+25	+12	-3	+11	-16	-12	-5	-11

(b) During October winds in Bengal and Orissa had an abnormally southerly component in their directions; this was due to the unusual position of the area of minimum pressure which on the mean of the month lay over the north and east of the Peninsula instead of over the west and centre of the Bay as is ordinarily the case. The following data illustrate this feature:—

STATION.	WIND DIRECTION.	
	Actual, October 1903.	Normal, October.
Saugor Island	S 78 E	N 8 W
Calcutta	S 63 W	N 44 W
False Point	S 40 E	N 50 E

(c) The air movement was stronger and steadier than usual at the great majority of the hill stations in northern India but was below its normal strength in Baluchistan. There was an abnormal easterly element in the wind's direction at Simla, Chakrata and Darjeeling throughout the period, as is shown by the following data:—

STATION.	WIND DIRECTION.					
	OCTOBER.		NOVEMBER.		DECEMBER.	
	Actual, 1903.	Normal.	Actual, 1903.	Normal.	Actual, 1903.	Normal.
Simla	N 10 E	N 32 W	N 7 E	S 12 W	S 57 E	S 11 W
Chakrata	S 13 E	S 64 W	S 17 E	S 61 W	S 19 E	S 64 W
Darjeeling	N 31 W	S 78 W	N 33 E	N 79 W	N 74 E	N 55 W

The chief features of the air movement in the Peninsula and the Indian seas were as follows:—

- (1) Winds were on the whole stronger and steadier than usual in October and were weaker and more variable than usual during the remainder of the period. The feebleness was most marked in South India, Mysore, the Central Provinces and Berar.

The following gives data of percentage departures of steadiness and velocity for the peninsular divisions:—

PROVINCE OR DIVISION.	PERCENTAGE DEPARTURE FROM NORMAL OF MEAN WIND STEADINESS IN				PERCENTAGE DEPARTURE FROM NORMAL OF MEAN DAILY AIR MOVEMENT IN			
	October.	November.	December.	Period, October to December.	October.	November.	December.	Period, October to December.
Central Provinces.	+1	+19	+3	+7	+14	-29	-20	-12
Berar . . .	+8	+4	-10	+1	+9	-20	-23	-11
West Coast .	+9	-1	-29	-7	+8	-8	-5	-2
Bombay Decan.	+11	+9	-28	-3	+10	-1	-5	+1
Mysore . . .	+7	-17	+4	-2	-3	-31	-13	-16
Madras Coast	+6	-31	0	-8	+3	-22	-6	-8
Madras Decan	+2	-10	-17	-8	+26	-4	-12	+3
South India .	-3	-11	-5	-6	-12	-51	-33	-32

- (2) Winds were abnormally westerly over the greater part of the Peninsula during October in consequence of the abnormal position of the area of lowest pressure already referred to, thus showing that the establishment of the north-east monsoon was considerably delayed. They were on the other hand more northerly or less easterly than usual in November and December.

The following data for representative stations illustrate these features:—

STATION.	WIND DIRECTION.					
	OCTOBER.		NOVEMBER.		DECEMBER.	
	Actual, 1903.	Normal.	Actual, 1903.	Normal.	Actual, 1903.	Normal.
	0	0	0	0	0	0
Belgaum . . .	N 53 W	N 54 E	N 68 E	N 76 E	N 63 W	N 83 E
Buldana . . .	N 3 W	N 24 E	N 50 E	N 64 E	N 42 E	N 82 E
Bombay . . .	N 22 W	N 14 E	N 8 W	N 18 E	N 4 E	N 16 E
Chitaldroog .	N 37 W	N 28 E	N 64 E	N 74 E	N 77 E	N 83 E
Mysore . . .	S 89 W	N 42 E	N 33 E	N 78 E	N 75 E	N 80 E
Madras . . .	S 16 W	N 55 E	N 18 E	N 24 E	N 24 E	N 25 E
Bellary . . .	N 51 W	N 42 E	N 48 E	N 81 E	N 79 E	S 86 E

- (3) The direction of air movement in October was as abnormal over the Bay Islands and the Pegu coast as in the Peninsula. The following gives data:—

STATION.	Actual wind direction, October 1903.	Normal wind direction October.
	0	0
Port Blair	S 68 W	S 1 W
Diamond Island	S 39 W	S 56 E

- (4) The air motion was on the whole slightly stronger than usual in the Indian seas, as is shown by the following data:—

AREA.	DEPARTURE OF MEAN DAILY FORCE OF WIND (BEAUFORT'S NOTATION) IN				Normal mean strength of winds during period.
	October.	November.	December.	Period, October to December.	
Bay of Bengal . . .	+0.1	0	+0.1	+0.1	3.2
Arabian Sea . . .	0	+0.2	+0.3	+0.2	3.0

- (5) The air movement was feebler and less steady than usual in the western half of the equatorial region as represented by Zanzibar and the Seychelles, Northerly winds set in at Zanzibar in November (which is abnormally early) and at the Seychelles in December. The following gives data:—

STATION.	PERCENTAGE DEPARTURE FROM NORMAL OF MEAN WIND STEADINESS IN				PERCENTAGE DEPARTURE FROM NORMAL OF MEAN DAILY AIR MOVEMENT IN			
	October.	November.	December.	Period, October to December.	October.	November.	December.	Period, October to December.
Zanzibar . . .	0	+13	-10	+1	-18	-15	-7	-13
Seychelles . . .	-6	-23	-18	-16	+19	-26	-31	-13

STATION.	WIND DIRECTION.					
	OCTOBER.		NOVEMBER.		DECEMBER.	
	Actual.	Normal.	Actual.	Normal.	Actual.	Normal.
	0	0	0	0	0	0
Zanzibar . . .	S 23 E	S 3 E	N 87 E	S 31 E	N 34 E	N 35 E
Seychelles . . .	S 37 E	S 44 E	S 25 E	S 70 E	N 34 W	N 44 W

Humidity

The departures from normal of the mean monthly and annual aqueous vapour pressure and humidity for the year 1903 are given in Tables XVII and XVIII. The normal values employed in the determination of the departures are given in Tables XIII and XIV of the Annual Summary for the year 1896. The four tables (Tables XIX to XXII) give departure data of aqueous vapour pressure and relative humidity for each month of the year and for the year:—

1st.—For sixteen meteorological areas adopted in the geographical summaries of meteorological data in the annual reports issued by the department previous to 1891.

2nd.—For nine meteorological provinces of the Empire.

TABLE XVII.—*Departure of the monthly and annual mean vapour pressure data of 1903 from the averages of past years.*

METEOROLOGICAL PROVINCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
		"	"	"	"	"	"	"	"	"	"	"	"	"
BURMA COAST AND BAY ISLANDS.	Port Blair . . .	+044	+042	-020	+025	+020	+017	+025	+010	+027	-004	-025	-003	+013
	Rangoon . . .	-034	-017	+005	+035	+011	-003	+009	-010	-012	-022	+007	-045	-006
	Diamond Island . .	+005	-022	-031	+008	-001	+016	+023	+017	+017	+001	+030	-066	0
BENGAL AND ORISSA	Chittagong . . .	-013	-005	+017	+003	+030	+055	+016	+005	-002	+026	+014	-023	+010
	Calcutta (Alipore) .	+061	-012	-018	-070	-057	-045	+012	-003	-007	+018	-004	-032	-013
	Saugor Island . . .	+062	-029	-035	-004	-004	-025	+014	-013	-016	+016	-012	-048	-008
GANGES PLAIN AND CHOTA NAGPUR.	False Point . . .	+090	-041	+034	+008	-012	-001	+023	+021	+010	+035	+003	-027	+012
	Hazaribagh . . .	0	-013	-048	+001	-078	-024	-047	-024	+003	+058	-027	-021	-018
	Darbhanga . . .	-025	-015	-024	-029	-058	+027	+015	+011	+025	+055	-025	-029	-006
UPPER SUB-HIMALAYAS.	Allahabad . . .	-024	-048	-076	-050	-120	-051	-144	-024	+061	+138	-005	-040	-032
	Dehra Dun . . .	-049	-041	-048	-095	-077	-168	-134	+011	+077	+089	-021	-020	-040
	Roorkee . . .	-023	-027	-051	-064	-109	-097	-159	+043	+105	+088	-008	-026	-027
INDUS VALLEY AND NORTH-WEST RAJPUTANA.	Meerut . . .	-045	-062	-092	-057	-134	-058	-096	+039	+100	+090	-042	-055	-034
	Lahore . . .	-029	+004	+007	-020	0	-064	+006	+046	+143	+055	+001	-027	+010
	Ludhiana . . .	-055	-035	-048	-091	-079	-147	-113	+003	+080	-010	-062	-068	-052
EAST RAJPUTANA, CENTRAL INDIA AND GUJARAT.	Peshawar . . .	-025	+003	-024	-028	+040	-105	-078	-044	+058	+025	-006	-015	-017
	Jacobabad . . .	-004	+043	-016	P	P	P	P	P	P	P	+086	-003	P
	Kurrachee . . .	-060	+013	-093	-030	+076	+010	+072	+120	+022	+147	+026	-083	+018
DECCAN . . .	Jaipur . . .	-047	-049	-091	-075	-033	-138	-032	+023	+088	+031	-069	-077	-039
	Deesa . . .	-031	-030	-035	-122	-136	-062	+016	+051	+073	+013	-059	-070	-033
	Belgaum . . .	+090	+018	-097	-080	+016	+018	+024	+016	+032	-029	-011	-020	-002
	Sholapur . . .	+060	-024	-093	-041	+040	+010	+055	+021	+032	-038	-056	-080	-010

TABLE XVII.—Departure of the monthly and annual mean vapour pressure data of 1903 from the averages of past years—concl'd.

METEOROLOGICAL PROVINCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
		"	"	"	"	"	"	"	"	"	"	"	"	"
DECCAN—concl'd.	Akola . . .	+ '044	— '046	— '056	— '035	+ '099	— '031	+ '056	+ '032	+ '052	+ '003	— '067	— '040	+ '001
	Buldana . . .	+ '021	— '049	— '073	— '087	— '024	— '070	+ '019	+ '008	+ '033	— '044	— '106	— '086	— '033
	Khandwa . . .	+ '008	— '085	— '067	— '093	— '019	— '042	+ '026	+ '024	+ '061	+ '032	— '060	— '032	— '021
	Nagpur . . .	+ '038	— '052	— '067	— '048	+ '052	— '040	+ '021	+ '034	+ '051	+ '043	— '073	— '054	— '008
WEST COAST .	Hyderabad (Deccan)	+ '052	+ '009	— '067	— '098	+ '050	+ '023	+ '068	+ '044	+ '056	+ '027	+ '033	— '014	+ '014
	Bombay . . .	— '024	— '074	— '072	— '057	— '002	— '002	+ '012	+ '012	+ '028	— '028	— '015	— '056	— '023
	Karwar . . .	+ '033	— '044	— '083	+ '042	+ '103	+ '044	+ '029	+ '014	+ '043	+ '009	— '019	— '032	+ '012
	Salem . . .	+ '074	+ '161	+ '163	+ '082	+ '098	+ '030	+ '046	+ '051	+ '045	+ '020	+ '069	+ '046	+ '074
SOUTH INDIA .	Chitaldroog . . .	+ '130	+ '051	+ '004	— '022	+ '049	+ '025	+ '038	+ '034	+ '073	+ '034	+ '046	+ '023	+ '040
	Bangalore . . .	+ '062	+ '031	— '071	— '086	— '026	+ '019	+ '009	+ '009	+ '046	+ '010	+ '021	+ '018	+ '004
	Hassan . . .	+ '075	+ '006	— '051	— '103	— '039	+ '036	+ '046	+ '030	+ '053	+ '017	— '010	— '014	+ '004
	Mysore . . .	+ '025	0	— '024	— '001	+ '056	+ '064	+ '039	— '003	+ '055	+ '015	+ '014	+ '068	+ '026
HILL STATION, BALUCHISTAN.	Madras . . .	+ '103	+ '103	+ '049	+ '008	+ '052	+ '074	+ '054	+ '062	+ '100	+ '030	+ '023	+ '016	+ '056
	Bellary . . .	+ '044	+ '101	— '001	+ '017	+ '151	+ '067	+ '108	+ '096	+ '116	+ '067	+ '071	+ '047	+ '074
	Quetta . . .	— '026	+ '011	— '026	+ '006	+ '026	— '047	— '080	— '084	— '022	— '017	+ '004	— '031	— '024
	Leh . . .	— '053	— '056	— '059	— '021	+ '008	+ '008	+ '024	+ '035	+ '043	— '003	— '040	— '056	— '014
HILL STATIONS, NORTHERN INDIA.	Srinagar . . .	— '021	+ '055	+ '006	+ '007	+ '022	+ '021	— '077	+ '033	+ '101	+ '071	+ '023	0	+ '024
	Simla (Ridge) . . .	— '024	— '012	— '028	— '037	— '043	— '080	— '071	— '010	+ '044	+ '009	— '033	— '026	— '026
	Chakrata . . .	— '021	— '010	— '017	— '050	— '053	— '069	— '075	+ '012	+ '059	+ '036	— '025	— '033	— '021
	Ranikhet . . .	— '029	— '015	— '030	— '075	— '074	— '030	— '065	+ '010	+ '044	+ '036	— '014	— '030	— '023
HILL STATIONS, CENTRAL INDIA.	Katmandu . . .	+ '057	— '017	— '051	— '101	— '082	— '020	+ '005	+ '010	+ '028	+ '034	+ '006	— '021	— '013
	Darjeeling . . .	— '022	— '012	— '042	— '032	— '004	— '013	+ '018	+ '021	+ '034	+ '035	+ '009	+ '012	0
	Mount Abu . . .	— '021	— '018	— '035	— '058	— '030	— '055	+ '024	+ '022	+ '041	— '032	— '039	— '049	— '021
	Pachmarhi . . .	+ '007	— '043	— '057	— '035	+ '027	— '054	+ '032	+ '027	+ '050	+ '064	— '045	— '039	— '006
EXTRA INDIAN STA- TIONS.	Chikalda . . .	+ '017	— '051	— '065	— '031	+ '024	+ '108	+ '090	+ '051	+ '039	+ '057	— '069	— '044	+ '011
	Aden . . .	— '007	— '049	— '031	— '056	+ '008	+ '010	+ '019	+ '044	+ '020	+ '059	— '052	?	?
	Perim . . .	+ '020	— '037	+ '003	+ '038	+ '027	+ '038	+ '079	+ '041	+ '041	+ '089	— '016	+ '018	+ '028
	Zanzibar . . .	+ '055	+ '022	+ '024	+ '021	+ '013	+ '050	+ '013	+ '013	— '019	+ '022	+ '007	?	?
	Port Victoria (Seychelles)	+ '031	+ '045	+ '053	+ '046	+ '047	+ '050	+ '040	+ '030	+ '006	+ '001	— '035	— '017	+ '025
	Mauritius (Pamplemousses.)	+ '054	+ '051	+ '066	+ '024	— '019	+ '019	— '020	— '015	— '029	— '038	— '048	— '043	0

TABLE XVIII.—Departure of the monthly and annual mean relative humidity data of 1903 from the averages of past years.

METEOROLOGICAL PROVINCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
BURMA COAST AND BAY ISLANDS.	Port Blair . . .	+ 1	0	0	- 1	- 2	0	+ 1	- 2	+ 1	- 1	+ 3	0	0
	Rangoon . . .	- 3	- 4	+ 2	0	- 2	- 1	- 4	- 1	- 2	- 1	- 1	- 1	- 2
	Diamond Island . . .	- 3	- 4	- 3	- 2	+ 3	- 2	0	0	- 2	0	- 1	- 6	- 2
BENGAL AND ORISSA.	Chittagong . . .	- 2	+ 2	+ 3	0	- 1	- 1	- 3	0	+ 1	+ 1	+ 3	+ 2	0
	Calcutta (Alipore). . .	0	- 2	- 5	- 8	- 10	- 8	- 4	- 2	0	- 1	- 2	- 5	- 4
	Saugor Island . . .	+ 7	- 2	- 5	- 1	- 4	- 4	- 4	- 3	- 1	0	- 3	- 5	- 2
GANGETIC PLAIN AND CHOTA NAGPUR.	False Point . . .	+ 5	- 5	- 2	- 4	- 3	- 3	- 2	+ 1	0	+ 2	0	- 3	- 1
	Hazaribagh . . .	- 4	- 3	- 6	+ 1	- 7	- 8	- 11	- 5	- 4	+ 6	- 2	- 3	- 4
	Darbhanga . . .	- 3	- 3	- 1	- 6	- 8	+ 6	- 3	0	+ 1	+ 3	- 3	- 5	- 2
UPPER SUB-HIMALAYAS.	Allahabad . . .	- 6	- 6	- 8	- 2	- 10	- 10	- 24	- 4	+ 2	+ 13	- 2	- 8	- 5
	Dehra Dun . . .	- 11	- 9	- 5	- 9	- 7	- 23	- 18	0	+ 6	+ 7	- 3	- 5	- 6
	Roorkee . . .	- 2	- 5	- 6	- 5	- 9	- 13	- 19	+ 4	+ 9	+ 9	+ 2	0	- 3
INDUS VALLEY AND NORTH-WEST RAJPUTANA.	Meerut . . .	- 9	- 11	- 10	- 2	- 10	- 11	- 13	+ 3	+ 8	+ 7	- 6	- 9	- 5
	Lahore . . .	- 4	- 2	+ 7	+ 3	+ 5	- 5	+ 4	+ 5	+ 11	+ 4	+ 2	+ 1	+ 3
	Ludhiana . . .	- 10	- 8	- 2	- 9	- 7	- 17	- 9	- 1	+ 5	- 2	- 8	- 7	- 6
EAST RAJPUTANA, CENTRAL INDIA AND GUJARAT.	Peshawar . . .	- 7	- 9	+ 4	+ 3	+ 10	- 9	- 5	- 6	+ 2	- 3	- 7	- 3	- 3
	Jacobabad . . .	+ 3	+ 3	0	?	?	?	?	?	+ 12	+ 17	+ 9	+ 2	
	Kurrachee . . .	- 8	0	- 7	- 3	+ 1	- 5	- 3	+ 3	- 4	+ 8	+ 1	- 11	- 2
DECCAN . . .	Jaipur . . .	- 11	- 9	- 9	- 6	- 3	- 17	- 11	- 1	+ 4	+ 1	- 10	- 12	- 7
	Deesa . . .	- 3	- 1	+ 2	- 8	- 10	- 7	- 5	+ 1	+ 2	- 2	- 5	- 8	- 4
	Belgaum . . .	+ 13	+ 7	- 6	- 6	+ 5	- 1	+ 2	+ 1	+ 1	- 1	+ 2	+ 1	+ 2
WEST COAST . . .	Sholapur . . .	+ 7	- 3	- 9	- 4	+ 5	- 3	+ 6	+ 3	+ 3	- 4	- 4	- 7	- 1
	Akola . . .	+ 2	- 5	- 5	- 4	+ 9	- 10	+ 5	+ 1	+ 4	+ 1	- 6	- 7	- 1
	Buldana . . .	+ 2	- 6	- 6	- 7	+ 1	- 13	0	0	+ 3	- 5	- 12	- 13	- 5
SOUTH INDIA . . .	Khandwa . . .	- 2	- 9	- 6	- 9	- 1	- 11	- 3	- 1	+ 7	+ 2	- 4	- 5	- 4
	Nagpur . . .	+ 1	- 6	- 8	- 4	+ 8	- 7	+ 1	+ 1	+ 3	+ 5	- 6	- 7	- 2
	Hyderabad (Deccan) . . .	+ 3	+ 1	- 10	- 10	+ 7	- 6	+ 10	+ 3	+ 2	+ 3	+ 5	0	+ 1
WEST COAST . . .	Bombay . . .	- 3	- 4	- 1	- 4	+ 2	0	+ 1	0	0	- 4	0	- 5	- 2
	Karwar . . .	- 1	- 5	- 4	+ 6	+ 8	+ 1	+ 1	- 1	+ 1	0	- 1	- 3	0
	Salem . . .	+ 5	+ 12	+ 10	+ 3	+ 7	+ 1	+ 4	+ 4	+ 6	+ 1	+ 6	+ 5	+ 5
SOUTH INDIA . . .	Chitaldroog . . .	+ 15	+ 5	- 1	- 6	+ 5	- 1	+ 4	+ 4	+ 8	+ 6	+ 7	+ 7	+ 4
	Bangalore . . .	+ 4	+ 3	- 9	- 9	- 3	0	0	+ 1	+ 5	+ 1	+ 6	+ 5	0
	Hassan . . .	+ 8	+ 1	- 8	- 10	- 5	- 2	+ 4	+ 1	- 5	+ 2	+ 2	+ 3	- 1
SOUTH INDIA . . .	Mysore . . .	+ 1	- 1	- 2	- 2	+ 5	+ 4	+ 4	+ 2	+ 7	+ 3	+ 9	+ 11	+ 3
	Madras . . .	+ 8	+ 5	+ 5	+ 2	+ 9	+ 6	+ 5	+ 5	+ 12	+ 2	+ 5	+ 3	+ 6
	Bellary . . .	+ 4	+ 8	- 4	- 2	+ 11	+ 2	+ 10	+ 9	+ 9	+ 6	+ 11	+ 7	+ 6

TABLE XVIII.—*Departure of the monthly and annual mean relative humidity data of 1903 from the averages of past years—concl'd.*

METEOROLOGICAL PROVINCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR
HILL STATION, BALUCHISTAN.	Quetta	+3	+1	+11	+12	+10	-3	-8	-11	-1	-1	+3	-2	+1
	Leh	P	P	P	-5	+4	+8	+14	+10	+7	-2	-21	-39	P
	Srinagar	+3	+6	+7	+10	+10	+6	+5	+4	+4	+2	+3	+1	+5
	Simla (Ridge)	-5	-2	+4	-2	-2	-15	-15	0	+11	+3	-7	-6	-3
HILL STATIONS, NORTHERN INDIA.	Chakrata	-6	-5	+5	-8	-9	-16	-16	+4	+10	+4	-9	-12	-5
	Ranikhet	-6	-4	+2	-11	-13	-8	-16	+1	+5	+4	-3	-9	-5
	Katmandu	-5	-3	-8	-15	-12	-1	-1	+1	+2	+5	+2	-2	-3
	Darjeeling	-5	-2	-13	-16	-8	-2	-1	+1	0	+3	-1	+1	-4
HILL STATIONS, CENTRAL INDIA.	Mount Abu	-4	-3	-2	-6	-6	-13	-7	0	+3	-7	-5	-10	-5
	Pachmarhi	-1	-6	-8	-5	+4	-16	-5	0	+7	+12	-2	-6	-2
	Chikalda	+2	-6	-5	-3	+4	-1	+3	+2	+3	+9	-8	-7	-1
	Aden	+1	-3	-3	-4	0	+3	-4	-2	-1	+2	-7	P	P
EXTRA INDIAN STA- TIONS.	Perim	+5	0	+1	+6	+2	+6	+5	+1	+3	+5	-4	+4	+3
	Zanzibar	+3	+4	0	+1	-1	+1	-3	-1	-3	0	-4	P	P
	Port Victoria (Seychelles)	+4	+6	+2	+6	+7	+6	+6	+5	+4	+1	+1	+1	+4
	Mauritius (Pamplemousses).	+6	+5	+3	+3	-3	-1	-5	-4	-2	-1	-2	0	0

TABLE XIX.—*Geographical summary of the aqueous vapour pressure departure data of Table II in the Monthly Weather Reviews of 1903.*

METEOROLOGICAL AREA.	Number of stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
North-West Himalayas	5	-.021	-.008	-.026	-.035	-.028	-.030	-.053	+.016	+.058	+.030	-.018	-.029	-.012
Sikkim Himalayas and Nepal	2	+.018	-.015	-.047	-.067	-.043	-.017	+.012	+.016	+.031	+.035	+.008	-.005	-.006
Punjab Plains	3	-.036	-.009	-.022	-.046	-.013	-.105	-.062	+.002	+.094	+.023	-.022	-.037	-.019
Gangetic Plain	5	-.033	-.039	-.058	-.059	-.100	-.069	-.104	+.016	+.074	+.092	-.020	-.034	-.028
Western Rajputana	3-4	-.029	+.001	-.046	-.070	-.030	-.036	+.037	+.064	+.045	+.043	+.004	-.051	-.006
Eastern Rajputana and Central India	1	-.047	-.049	-.091	-.075	-.033	-.138	-.032	+.023	+.088	+.031	-.069	-.077	-.039
Nerbudda Valley	1	+.008	-.085	-.067	-.093	-.019	-.042	+.026	+.024	+.061	+.032	-.060	-.032	-.021
Chota Nagpur	1	0	-.013	-.048	+.001	-.078	-.024	-.047	-.024	+.003	+.058	-.027	-.021	-.018
Lower Bengal	2	+.062	-.021	-.027	-.037	-.031	-.035	+.013	-.008	-.012	+.017	-.008	-.040	-.011
Orissa	1	+.090	-.041	+.034	+.008	-.012	-.001	+.023	+.021	+.010	+.035	+.003	-.027	-.012
Central Provinces (South) and Berar	5	+.025	-.048	-.064	-.047	+.036	-.017	+.044	+.030	+.045	+.025	-.072	-.053	-.008

TABLE XIX.—*Geographical summary of the aqueous vapour pressure departure data of Table II in the Monthly Weather Reviews of 1903—concl'd.*

METEOROLOGICAL AREA.	Number of stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
		"	"	"	"	"	"	"	"	"	"	"	"	"
Konkan	2	+ '005	— '059	— '078	— '008	+ '051	+ '021	+ '021	+ '013	+ '036	— '010	— '017	— '044	— '006
Deccan, Hyderabad and Mysore	8	+ '067	+ '024	— '050	— '052	+ '037	+ '033	+ '048	+ '031	+ '055	+ '013	+ '014	+ '004	+ '019
East Coast and Carnatic	2	+ '089	+ '132	+ '106	+ '045	+ '075	+ '052	+ '050	+ '057	+ '073	+ '025	+ '046	+ '031	+ '065
Arakan and Pegu	3	— '014	— '015	— '003	+ '015	+ '013	+ '023	+ '016	+ '004	+ '001	+ '002	+ '017	— '045	+ '001
Bay Island	1	+ '044	+ '042	— '020	+ '025	+ '020	+ '017	+ '025	+ '010	+ '027	— '004	— '025	— '003	+ '013
Extra-tropical India	23—24	— '016	— '020	— '043	— '052	— '045	— '053	— '037	+ '017	+ '055	+ '045	— '017	— '035	— '017
Tropical India	22	+ '043	+ '002	— '030	— '023	+ '035	+ '018	+ '038	+ '026	+ '042	+ '013	— '008	— '019	+ '011
Whole India	45—46	+ '012	— '009	— '036	— '038	— '006	— '018	0	+ '022	+ '049	+ '029	— '012	— '028	— '003

TABLE XX.—*Geographical summary of the humidity departure data of Table II in the Monthly Weather Review of 1903.*

METEOROLOGICAL AREA.	Number of stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
North-West Himalayas	4—5	— 4	— 1	+ 5	— 3	— 2	— 5	— 6	+ 4	+ 7	+ 2	— 7	— 13	— 2
Sikkim Himalayas and Nepal	2	— 5	— 3	— 11	— 16	— 10	— 2	— 1	+ 1	+ 1	+ 4	+ 1	— 1	— 4
Punjab Plains	3	— 7	— 6	+ 3	— 1	+ 3	— 10	— 3	— 1	+ 6	0	— 4	— 3	— 2
Gangetic Plain	5	— 6	— 7	— 6	— 5	— 9	— 10	— 15	+ 1	+ 5	+ 8	— 2	— 5	— 4
Western Rajputana	3—4	— 3	0	— 2	— 6	— 5	— 8	— 5	+ 1	+ 3	+ 4	0	— 7	— 2
Eastern Rajputana and Central India	1	— 11	— 9	— 9	— 6	— 3	— 17	— 11	— 1	+ 4	+ 1	— 10	— 12	— 7
Nerbudda Valley	1	— 2	— 9	— 6	— 9	— 1	— 11	— 3	— 1	+ 7	+ 2	— 4	— 5	— 4
Chota Nagpur	1	— 4	— 3	— 6	+ 1	— 7	— 8	— 11	— 5	— 4	+ 6	— 2	— 3	— 4
Lower Bengal	2	+ 4	— 2	— 5	— 5	— 7	— 6	— 4	— 3	— 1	— 1	— 3	— 5	— 3
Orissa	1	+ 5	— 5	— 2	— 4	— 3	— 3	— 2	+ 1	0	+ 2	0	— 3	— 1
Central Provinces (South) and Berar	5	+ 1	— 6	— 6	— 5	+ 5	— 9	+ 1	+ 1	+ 4	+ 4	— 7	— 8	— 2
Konkan	2	— 2	— 5	— 3	+ 1	+ 5	+ 1	+ 1	— 1	+ 1	— 2	— 1	— 4	— 1
Deccan, Hyderabad and Mysore	8	+ 7	+ 3	— 6	— 6	+ 4	— 1	+ 5	+ 3	+ 4	+ 2	+ 5	+ 3	+ 2
East Coast and Carnatic	2	+ 7	+ 9	+ 8	+ 3	+ 8	+ 4	+ 5	+ 5	+ 9	+ 2	+ 6	+ 4	+ 6
Arakan and Pegu	3	— 3	— 2	+ 1	— 1	0	— 1	— 2	0	— 1	0	0	— 2	— 1
Bay Island	1	+ 1	0	0	— 1	— 2	0	+ 1	— 2	+ 1	— 1	+ 3	0	0
Extra-tropical India	23—24	— 4	— 4	— 3	— 5	— 5	— 8	— 7	+ 1	+ 4	+ 3	— 3	— 7	— 3
Tropical India	22	+ 3	— 1	— 3	— 3	+ 4	— 2	+ 2	+ 2	+ 3	+ 2	+ 1	+ 1	+ 1
Whole India	45—46	— 1	— 2	— 3	— 4	— 1	— 5	— 3	+ 1	+ 4	+ 3	— 1	— 3	— 1

TABLE XXI.—*Departure of the mean monthly aqueous vapour pressure from the normal in nine meteorological provinces of India in 1903.*

METEOROLOGICAL PROVINCE.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
	"	"	"	"	"	"	"	"	"	"	"	"	"
Burma Coast and Bay Islands.	+005	+001	-015	+023	+010	+010	+019	+006	+011	-008	+004	-038	+002
Bengal and Orissa .	+050	-022	-001	-016	-011	-004	+016	+003	-004	+024	0	-033	0
Gangetic Plain and Chota Nagpur.	-016	-025	-049	-028	-084	-016	-059	-012	+030	+084	-019	-030	-019
Upper Sub-Himalayas	-040	-032	-046	-065	-085	-102	-039	+028	+101	+062	-026	-039	-028
Indus Valley and North-West Rajputana.	-030	+020	-046	-029	+058	-048	-003	+038	+108	+143	+035	-034	-018
East Rajputana, Central India and Gujarat.	-039	-040	-063	-099	-085	-100	-008	+037	+081	+022	-064	-074	-036
Deccan	+045	-033	-074	-059	+031	-019	+038	+026	+042	-001	-049	-047	-009
West Coast	+005	-059	-078	-008	+051	+021	+021	+013	+036	-010	-017	-044	-005
South India	+073	+065	+010	-015	+049	+045	+049	+040	+070	+027	+033	-029	+035

TABLE XXII.—*Departure of the mean monthly relative humidity from the normal in nine meteorological provinces of India in 1903.*

METEOROLOGICAL PROVINCE.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
Burma Coast and Bay Islands.	- 2	- 3	0	- 1	0	- 1	- 1	- 1	- 1	- 1	0	- 2	- 1
Bengal and Orissa .	+ 3	- 2	- 2	- 3	- 5	- 4	- 3	- 1	0	+ 1	- 1	- 3	- 2
Gangetic Plain and Chota Nagpur.	- 4	- 4	- 5	- 3	- 8	- 4	-13	- 3	0	+ 7	- 2	- 5	- 4
Upper Sub-Himalayas	- 7	- 7	- 3	- 4	- 6	-13	-11	+ 2	+ 8	+ 5	- 3	- 4	- 4
Indus Valley and North-West Rajputana.	- 4	- 2	- 1	0	+ 6	- 7	- 4	- 2	+ 3	+ 7	+ 1	- 4	- 1
East Rajputana, Central India and Gujarat.	- 7	- 5	- 4	- 7	- 7	-12	- 8	0	+ 3	- 1	- 8	-10	- 6
Deccan	+ 4	- 3	- 7	- 6	+ 5	- 7	+ 3	+ 1	+ 3	0	- 4	- 5	- 1
West Coast	- 2	- 5	- 3	+ 1	+ 5	+ 1	+ 1	- 1	+ 1	2	- 1	- 4	- 1
South India	+ 6	+ 5	- 1	- 3	+ 4	+ 1	+ 4	+ 4	+ 6	+ 3	+ 7	+ 6	+ 4

I The cold weather period.—The departures of the hygrometric conditions from the normal during the cold-weather of 1903 were considerably smaller than those of the corresponding period of the previous year. Aqueous vapour was generally above the normal in January in Bengal and the whole of the peninsula

and in defect in Burma, the Gangetic plain and north-west India. In February it was in defect over the whole of the country with the exception of Madras, Mysore and Sind where it was moderately above the normal. The departures of the relative humidity were generally similar in character to those of aqueous vapour: thus humidity was

in moderate excess throughout the period in Madras, Mysore and the Bombay Deccan, and in slight to moderate defect over Burma and the greater part of northern and Central India.

The following data illustrate these features.

PROVINCE OR DIVISION.	DEPARTURE OF MEAN DAILY ABSOLUTE HUMIDITY FROM NORMAL IN			DEPARTURE OF MEAN DAILY RELATIVE HUMIDITY FROM NORMAL IN		
	January.	February.	Period, January and February.	January.	February.	Period, January and February.
Burma	-.015	-.020	-.018	-3	-4	-4
Bengal	+.037	-.015	+.011	+2	-1	+1
Orissa	+.030	-.0	+.025	+5	-5	0
Bihar	-.025	-.0	-.020	-3	-3	-3
Chota Nagpur	0	-.0	-.007	-4	-3	-4
United Provinces of Agra and Oudh	-.035	-.0	-.040	-7	8	-8
Punjab	-.036	-.003	-.023	-7	-6	-7
Sind	-.032	+.028	-.002	-3	+2	-1
Rajputana	-.039	-.040	-.040	-7	-5	-6
Central Provinces	+.023	-.059	-.023	-1	-8	-5
Berar	+.033	-.048	-.008	+2	-6	-2
West Coast	+.005	-.059	-.027	-2	-5	-4
Bombay Deccan	+.075	-.003	+.036	+10	+2	+6
Mysore	+.073	+.022	+.048	+7	+2	+5
Madras Coast	+.103	+.103	+.103	+8	+5	+7
Madras Deccan	+.048	+.055	+.052	+4	+5	+5
South India	+.074	+.161	+.118	+5	+12	+9

The relative dryness was most pronounced at the stations for which data are given below :—

STATION.	DEPARTURE OF MEAN DAILY ABSOLUTE HUMIDITY FROM NORMAL IN			DEPARTURE OF MEAN DAILY RELATIVE HUMIDITY FROM NORMAL IN		
	January.	February.	Period, January and February.	January.	February.	Period, January and February.
Dehra Dun	-.049	-.041	-.045	-11	-9	-10
Meerut	-.045	-.062	-.054	-9	-11	-10
Ludhiana	-.055	-.035	-.045	-10	-8	-9
Peshawar	-.025	+.003	-.011	-7	-9	-8
Jaipur	-.047	-.049	-.048	-11	-9	-10

The air was damper than usual in Baluchistan, Kashmir and Gilgit. The increased humidity in these areas was however solely due to local actions, for opposite conditions prevailed in Persia and on the outer ranges of the Himalayas.

The following gives comparative data for eight representative stations :—

STATION.	DEPARTURE OF MEAN DAILY ABSOLUTE HUMIDITY FROM NORMAL IN			DEPARTURE OF MEAN DAILY RELATIVE HUMIDITY FROM NORMAL IN		
	January.	February.	Period, January and February.	January.	February.	Period, January and February.
Quetta	-.02	+.011	-.008	+3	+1	+2
Srinagar	+.021	+.055	+.038	+3	+6	+5
Gilgit*	+.002	+.028	+.015	+4	+11	+8
Simla	-.024	-.012	-.018	-5	-2	-4
Chakrata	-.021	-.010	-.015	-6	-5	-6
Darjeeling	-.022	-.012	-.017	-5	-2	-4
Bushire*	-.073	-.053	-.066	-6		-7
Ispahan*	-.023	-.023	-.023	-10	-7	-9

The driest periods during the cold weather were from the 26th to the 29th January, the 10th to the 16th February and the 24th to the 28th February.

The following gives the lowest humidities recorded during these periods :—

STATION.	Date and month.	Hour.	Lowest humidity recorded during period.
Udaipur	26th January .	4 P.M.	7
Deesa	" " .	"	9
Mount Abu	" " .	"	11
Buldana	27th " .	10 A.M.	5
Mount Abu	" " .	"	6
"	" " .	8 A.M.	8
Deesa	" " .	4 P.M.	9
Mount Abu	28th " .	10 A.M.	11
"	29th " .	"	12
Deesa	10th February .	4 P.M.	9
"	11th " .	"	9
"	14th " .	"	10
Akola	" " .	"	10
"	15th " .	"	11
Sholapur	16th " .	"	10
Buldana	" " .	"	11
Hazaribagh	24th " .	"	13
Deesa	25th " .	"	11
Khandwa	26th " .	"	12
"	27th " .	"	11
Nagpur	" " .	"	11
Bangalore	28th " .	"	11

* As there are no 10 and 16 hrs. data for these stations figures for 8 A. M. have been given.

II.—The hot weather period.—Finer weather than usual obtained over by far the greater part of the country from March to about the middle of May, and during the whole of this period the air was drier than usual, more especially in the interior districts of the Peninsula.

The air was on the other hand unusually damp in the second-half of May, during which period very disturbed weather with much rain prevailed over the Peninsula and upper India.

Very low humidities were recorded in March from the 3rd to the 9th, the 15th to the 18th and the 29th to the 31st, in April between the 1st and the 4th and in May from the 1st to the 8th. The following gives the more noteworthy examples:—

STATION.	Date and month.	Hour.	Lowest humidity.
			%
Bellary	3rd March	4 P.M.	3
"	4th "	"	6
Sholapur	6th "	10 A.M.	9
Jaipur	7th "	4 P.M.	9
Deesa	8th "	10 A.M.	2
"	" "	4 P.M.	0
"	9th "	"	5
"	15th "	"	5
Mount Abu	" "	8 A.M.	3
Deesa	16th "	4 P.M.	7
Jaipur	" "	"	6
Deesa	17th "	"	8
Mount Abu	18th "	10 A.M.	8
Jaipur	29th "	4 P.M.	9
"	31st "	"	5
Deesa	" "	8 A.M.	4
"	" "	10 "	3
"	" "	4 P.M.	1
"	1st April	10 A.M.	5
"	" "	4 P.M.	0
Buldana	" "	"	3
Pachmarhi	2nd "	10 A.M.	0
Deesa	" "	10 A.M. & 4 P.M.	5
Buldana	" "	10 A.M.	5
Khandwa	" "	4 P.M.	5
Deesa	3rd "	"	4
"	4th "	10 A.M.	4
"	" "	4 P.M.	3
Roorkee	1st May	"	7
Deesa	" "	"	8

STATION.	Date and month.	Hour.	Lowest humidity.
Bareilly	2nd May	8 A.M.	% 0
Roorkee	" "	4 P.M.	5
Hazaribagh	" "	"	6
"	3rd "	"	6
Meerut	" "	"	7
Deesa	" "	"	8
Hazaribagh	4th "	10 A.M. & 4 P.M.	7
Allahabad	" "	4 P.M.	8
Khandwa	" "	"	8
Akola	5th "	"	7
Deesa	6th "	"	8
Buldana	" "	"	8
Jaipur	8th "	"	8
Roorkee	" "	"	8

The first four of these periods coincided with the passage of cold waves, and the extreme dryness of the air in those epochs was hence due to incursions of cool dry air from the mountain region bordering north-west India.

The following gives a summary of the chief features of the humidity conditions of the period:—

- (1) The air was on the mean of the period drier than usual over nearly the whole of northern India and the north of the Peninsula. The dryness was most marked in the United Provinces, Rajputana and Bihar.

The comparative data for these areas are given below:—

PROVINCE OR DIVISION.	DEPARTURE OF MEAN DAILY ABSOLUTE HUMIDITY FROM NORMAL IN				DEPARTURE OF MEAN DAILY RELATIVE HUMIDITY FROM NORMAL IN			
	March.	April.	May.	Period, March to May.	March.	April.	May.	Period, March to May.
Bengal	—'012	—'024	—'010	—'015	—2	—3	—5	—3
Orissa	+ '034	+ '008	—'012	+ '010	—2	—4	—3	—3
Bihar	—'024	—'020	—'058	—'037	—1	—6	—8	—5
Chota Nagpur	—'048	+ '001	—'078	—'042	—6	+1	—7	—4
United Provinces of Agra and Oudh.	—'067	—'067	—'110	—'081	—7	—5	—9	—7
Punjab	—'022	—'046	—'013	—'027	+3	—1	+3	+2
Sind	—'057	—'030	+ '076	—'004	—4	—3	+1	—2
Rajputana	—'063	—'099	—'085	—'082	—4	—7	—7	—6
Central Provinces	—'067	—'071	+ '017	—'040	—7	—7	+4	—3
Berar	—'065	—'061	+ '038	—'029	—6	—6	+5	—2

- (2) The air was, as in the preceding period, unusually damp in Baluchistan and Kashmir and drier than

usual in the Himalayan hill districts as well as in the Aravallis and Satpuras.

The following figures for representative stations illustrate these characteristics :—

STATION.	DEPARTURE OF MEAN DAILY ABSOLUTE HUMIDITY FROM NORMAL IN				DEPARTURE OF MEAN DAILY RELATIVE HUMIDITY FROM NORMAL IN			
	March.	April.	May.	Period, March to May.	March.	April.	May.	Period, March to May.
Quetta	-.026	+006	+026	+002	+11	+12	+10	+11
Srinager	+006	+007	+022	+012	+7	+10	+10	+9
Ranikhet	-.030	-.075	-.074	-.060	+2	-11	-13	-7
Katmandu	-.051	-.101	-.082	-.078	-8	-15	-12	-12
Darjeeling	-.042	-.032	-.004	-.026	-13	-16	-8	-12
Mount Abu	-.035	-.058	-.030	-.041	-2	-6	-6	-5
Pachmarhi	-.057	-.035	+027	-.022	-8	-5	+4	-3

(3) The humidity conditions were practically normal in Burma and the Bay Islands, as is shown below :—

AREA.	DEPARTURE OF MEAN DAILY ABSOLUTE HUMIDITY FROM NORMAL IN				DEPARTURE OF MEAN DAILY RELATIVE HUMIDITY FROM NORMAL IN			
	March.	April.	May.	Period, March to May.	March.	April.	May.	Period, March to May.
Bay Islands (Port Blair)	-.020	+025	+020	+008	0	-1	-2	-1
Burma	-.013	+022	+005	+005	-1	-1	+1	0

(4) The departures of the humidity conditions were irregular over the greater part of the Peninsula. The air was slightly drier than usual in the Deccan and Mysore and very damp in South India and the coast districts of Madras.

The following gives data for the various divisions of the Peninsula :—

PROVINCE OR DIVISION.	DEPARTURE OF MEAN DAILY ABSOLUTE HUMIDITY FROM NORMAL IN				DEPARTURE OF MEAN DAILY RELATIVE HUMIDITY FROM NORMAL IN			
	March.	April.	May.	Period, March to May.	March.	April.	May.	Period, March to May.
West Coast	-.079	-.008	+050	-.012	-3	+1	+5	+1
Bombay Deccan . . .	-.095	-.061	+028	-.043	-7	-5	+5	-2
Mysore	-.036	-.053	+010	-.026	-5	-7	+1	-4
Madras Coast	+049	+008	+052	+036	+5	+2	+9	+5
Madras Deccan . . .	-.034	-.041	+010	+009	-7	-6	+9	-1
South India	+0163	+032	+098	+0114	+10	+3	+7	+7

(5) The humidity conditions in Persia were opposite in character to those of Baluchistan, an indication that they were determined by local and not general actions. The following gives the available data for Persia :—

STATION.	DEPARTURE OF MEAN S.A.M. RELATIVE HUMIDITY FROM NORMAL IN				DEPARTURE OF MEAN S.A.M. ABSOLUTE HUMIDITY FROM NORMAL IN			
	March.	April.	May.	Period, March to May.	March.	April.	May.	Period, March to May.
Jask	-6.9	-2.6	+4.8	-1.6	-.052	-.096	+020	-.043
Bushire	+0.5	+2.5	-5.9	-1.0	-.045	-.005	-.064	-.038
Ispahan	-1.8	-6.0	+3.5	-1.4	-.056	-.057	-.016	-.043
Teheran	+12.8	+7.0	+1.6	+7.1	-.031	+026	+020	+005
Baghdad	-7.0	-6.6	-13.5	-9.0	-.064	-.020	-.089	-.058

III.—The south-west monsoon period—The Bombay current was somewhat late in setting in on the west coast and extended very slowly into the Central Provinces and north-west India where it was not fully established until the middle of July. The Bay current set in over Bengal about the usual date, but it was not until the beginning of August that it penetrated into the United Provinces. The air was hence much drier than usual in June and July over Burma and practically the whole of the interior of India to the north of Lat. 20. N. The following gives data in illustration :—

PROVINCE OR DIVISION.	DEPARTURE OF MEAN DAILY ABSOLUTE HUMIDITY FROM NORMAL IN			DEPARTURE OF MEAN DAILY RELATIVE HUMIDITY FROM NORMAL IN		
	June.	July.	Period, June and July.	June.	July.	Period, June and July.
Burma	+007	+016	+012	-2	-2	-2
Bengal	-.005	+014	+005	-4	-4	-4
Orissa	-.001	+023	+011	-3	-2	-3
Bihar	+027	+015	+021	+6	-3	+2
Chota Nagpur	-.024	-.047	-.036	-8	-11	-10
United Provinces of Agra and Oudh	-.094	-.133	-.114	-14	-19	-17
Punjab	-105	-.062	-.084	-10	-3	-7
Sind	+010	+072	+041	-5	-3	-4
Rajputana	-.100	-.008	-.054	-12	-8	-10
Central Provinces . .	-.041	+024	-.009	-9	-1	-5
Berar	-.051	+038	-.007	-12	+3	-5

The central area of the abnormal dryness of the air during this period was defined by the following stations :—

STATION.	DEPARTURE OF MEAN DAILY RELATIVE HUMIDITY FROM NORMAL IN		
	June.	July.	Period, June and July.
Hazaribagh	— 8	—11	—10
Allahabad	—10	—24	—17
Dehra Dun	—23	—18	—21
Roorkee	—13	—19	—16
Meerut	—11	—13	—12
Ludhiana	—17	— 9	—13
Peshawar	— 9	— 5	— 7
Jaipur	—17	—11	—14
Buldana	—13	0	— 7
Khandwa	—11	—3	— 7

The dryness was as marked at the hill stations as in the adjacent plains. This is shown below :—

STATION.	DEPARTURE OF MEAN DAILY RELATIVE HUMIDITY FROM NORMAL IN		
	June.	July.	Period, June and July.
Quetta	— 3	— 8	— 6
Simla	—15	—15	—15
Chakrata	—16	—16	—16
Ranikhet	— 8	—16	—12
Mount Abu	—13	— 7	—10
Pachmarhi	—16	— 5	—11

The air was on the other hand damper than usual during this period in the south, centre and the coast districts of the Peninsula. The following are data for this area :—

DIVISION.	DEPARTURE OF MEAN DAILY ABSOLUTE HUMIDITY FROM NORMAL IN			DEPARTURE OF MEAN DAILY RELATIVE HUMIDITY FROM NORMAL IN		
	June.	July.	Period, June and July.	June.	July.	Period, June and July.
West Coast	+ '021	+ '021	+ '021	+1	+ 1	+1
Bombay Deccan	+ '014	+ '040	+ '027	—2	+ 4	+1
Mysore	+ '036	+ '033	+ '035	0	+ 3	+2
Madras Coast	+ '074	+ '054	+ '064	+6	+ 5	+6
Madras Deccan	+ '045	+ '088	+ '067	—2	+10	+4
South India	+ '030	+ '046	+ '038	+1	+ 4	+3

The air was abnormally dry in upper India during the first thirteen days of June and again between the 1st and the 10th of July. The following gives examples of the low humidities recorded at these times :—

STATION.	Date and month.	Hour.	Lowest humidity.
Lahore	1st June	4 P.M.	9
Peshawar	3rd „	„	9
Jaipur	8th „	„	9
„	10th „	„	8
Khushab	11th „	8 A.M.	9
Montgomery	„ „	„	8
„	12th „	„	3
Jaipur	„ „	4 P.M.	8
Montgomery	13th „	8 A.M.	02
Bellary	„ „	From minima.	9
Roorkee	1st July	4 P.M.	15
„	3rd „	„	13
Allahabad	4th „	„	15
„	5th „	„	15
Dehra Dun	8th „	„	15
Meerut	„ „	„	15
Allahabad	„ „	„	14
Ludhiana	„ „	„	13
Roorkee	„ „	„	13
Ludhiana	9th „	„	14
„	10th „	„	15

The monsoon currents extended to their utmost limits in August and gave abundant rain in that month as well as in September. The air was accordingly damper than usual over the greater part of the country in both months, the excess being shown chiefly in the central and coast districts of Madras.

The following table gives provincial data for August and September :—

PROVINCE OR DIVISION.	DEPARTURE OF MEAN DAILY ABSOLUTE HUMIDITY FROM NORMAL IN			DEPARTURE OF MEAN DAILY RELATIVE HUMIDITY FROM NORMAL IN		
	August.	September.	Period, August and September.	August.	September.	Period, August and September.
Burma	+ '004	+ '003	+ '004	—1	—2	—3
Bengal	— '004	— '003	— '006	—2	0	—1
Orissa	+ '031	+ '010	+ '016	+1	0	+1
Bihar	+ '011	+ '025	+ '018	0	+1	+1

PROVINCE OR DIVISION.	DEPARTURE OF MEAN DAILY ABSOLUTE HUMIDITY FROM NORMAL IN			DEPARTURE OF MEAN DAILY RELATIVE HUMIDITY FROM NORMAL IN		
	August.	September.	Period, August and September.	August.	September.	Period, August and September.
Chota Nagpur	—'024	+ '003	—'011	—5	—4	—5
United Provinces of Agra and Oudh.	+ '017	+ '086	+ '053	+ 1	+ 6	+ 4
Punjab	+ '002	+ '094	+ '048	—1	+ 6	+ 3
Sind	+ '120	+ '132	+ '126	+ 3	+ 4	+ 4
Rajputana	+ '037	+ '081	+ '059	0	+ 3	+ 2
Central Provinces	+ '023	+ '056	+ '043	0	+ 5	+ 3
Berar	+ '020	+ '043	+ '032	+ 7	+ 4	+ 3
West Coast	+ '013	+ '036	+ '025	—1	+ 1	0
Bombay Deccan	+ '019	+ '032	+ '026	+ 2	+ 2	+ 2
Mysore	+ '018	+ '057	+ '038	+ 2	+ 4	+ 3
Madras Coast	+ '062	+ '100	+ '081	+ 5	+ 12	+ 9
Madras Deccan	+ '070	+ '076	+ '073	+ 6	+ 6	+ 6
South India	+ '051	+ '045	+ '048	+ 4	+ 6	+ 5

At the hill stations in upper and central India the humidity was greater than usual, more especially in September.

The following gives data:—

STATION.	DEPARTURE OF MEAN DAILY RELATIVE HUMIDITY FROM NORMAL IN		
	August.	September.	Period, August and September.
Leh	+10	+7	+9
Srinagar	+4	+4	+4
Simla	0	+11	+6
Chakrata	+4	+10	+7
Ranikhet	+1	+5	+3
Mount Abu	0	+3	+2
Pachmarhi	0	+7	+4

The air was drier than usual throughout the period in Baluchistan.

IV.—The retreating monsoon period.—The period was characterized by a steady excess of humidity over Mysore and Madras and a persistent dryness of the air over the north and west of the Peninsula and in Rajputana. These peculiarities are illustrated in the table appended:—

DIVISION.	DEPARTURE OF MEAN DAILY ABSOLUTE HUMIDITY FROM NORMAL IN				DEPARTURE OF MEAN DAILY RELATIVE HUMIDITY FROM NORMAL IN			
	October.	November.	December.	Period, October to December.	October.	November.	December.	Period, October to December.
	"	"	"	"				
Area of increased humidity.								
Mysore	+ '019	+ '018	+ '024	+ '020	+ 3	+ 6	+ 7	+ 5
Madras Coast	+ '030	+ '023	+ '016	+ '023	+ 2	+ 5	+ 3	+ 3
Madras Deccan	+ '047	+ '052	+ '017	+ '039	+ 5	+ 8	+ 4	+ 6
South India	+ '020	+ '069	+ '046	+ '045	+ 1	+ 6	+ 5	+ 4
Area of decreased humidity.								
Rajputana	+ '022	—'064	—'074	—'039	—1	—8	—10	—6
Central Provinces, Berar	+ '035	—'067	—'043	—'025	+ 4	—5	—6	—2
West Coast	—'010	—'017	—'044	—'024	—2	—1	—4	—2
Bombay Deccan	—'034	—'034	—'050	—'039	—3	—1	—3	—3

The humidity conditions differed to no important extent from the normal in Burma and the Bay Islands, as is shown below:—

PROVINCE OR DIVISION.	DEPARTURE OF MEAN DAILY ABSOLUTE HUMIDITY FROM NORMAL IN				DEPARTURE OF MEAN DAILY RELATIVE HUMIDITY FROM NORMAL IN			
	October.	November.	December.	Period, October to December.	October.	November.	December.	Period, October to December.
Burma	—'011	+ '018	—'056	—'016	—1	—1	—4	—2
Bay Islands (Port Blair)	—'004	—'025	—'003	—'011	—1	+ 3	0	+ 1

The air was very damp over the greater part of northern India in October but drier than usual in the next two months. The departures of the humidity conditions from the normal on the mean of the period were small and of no significance.

The following gives data for the various divisions of northern India:—

PROVINCE OR DIVISION.	DEPARTURE OF MEAN DAILY ABSOLUTE HUMIDITY FROM NORMAL IN				DEPARTURE OF MEAN DAILY RELATIVE HUMIDITY FROM NORMAL IN			
	October.	November.	December.	Period, October to December.	October.	November.	December.	Period, October to December.
Bengal	+020	-001	-034	-005	0	-1	-3	-1
Bihar	+055	-025	-029	0	+3	-3	-5	-2
Chota Nagpur	+058	-027	-021	+003	+6	-2	-3	0
United Provinces of Agra and Oudh.	+101	-019	-035	+016	+9	-2	-6	0
Punjab	+023	-022	-037	-012	0	-4	-3	-2
Sind	+202	+056	-043	+072	+13	+5	-5	+4

The departures of the humidity conditions at the hill stations in northern India were in general similar to those of the neighbouring plains. The chief feature was the great dryness at Leh where both absolute and relative humidities were in large defect.

The data for nine stations are appended:—

STATION.	DEPARTURE OF MEAN DAILY ABSOLUTE HUMIDITY FROM NORMAL IN				DEPARTURE OF MEAN DAILY RELATIVE HUMIDITY FROM NORMAL IN			
	October.	November.	December.	Period, October to December.	October.	November.	December.	Period, October to December.
Leh	-003	-040	-056	-033	-2	-21	-39	-2
Simla	+009	-033	-026	-017	+3	-7	-6	-3
Chakrata	+036	-025	-033	-007	+4	-9	-12	-6
Ranikhet	+036	-014	-030	-003	+4	-3	-9	-3
Katmandu	+034	+006	-021	+006	+5	+2	-2	+2
Darjeeling	+035	+009	+012	+019	+3	-1	+1	+1
Mount Abu	-032	-039	-049	-040	-7	-5	-10	-7
Pachmarhi	+064	-045	-039	-007	+12	-2	-6	+1
Chikalda	+057	-069	-044	-019	+9	-8	-7	-2

The year.—The following are the more important features of the mean humidity conditions of the year 1903 in India.

- (1) The year was only to a moderate extent drier than usual. The mean relative humidity of the whole of the Indian area was below the normal. This dryness was partly a result of increased temperature of the year and partly of a slight deficiency in the amount of aqueous vapour of which the pressure was '003" below the normal.

The dryness of the air was restricted mainly to

extra tropical India: in tropical India both relative and absolute humidities were in excess.

- (3) The driest area on the mean of the year was defined by the following stations:—

STATION.	Departure of mean daily absolute humidity from normal.	Departure of mean daily relative humidity from normal.
Allahabad	-032	-5
Dehra Dun	-040	-6
Meerut	-034	-5
Ludhiana	-052	-6
Jaipur	-039	-7
Buldana	-038	-5
Chakrata	-021	-5
Ranikhet	-023	-5
Mount Abu	-021	-5

The following gives the mean annual departures of the mean aqueous vapour pressure and humidity of the whole of India from the normal for each year from 1875 to 1903:—

YEAR.	Annual departure of pressure of vapour.	Annual departure of relative humidity.
1875	-004	+1
1876	-017	-1
1877	+011	+1
1878	+020	0
1879	-014	-1
1880	-004	0
1881	+001	0
1882	-003	0
1883	-013	-1
1884	-012	0
1885	+001	0
1886	+008	+1
1887	-012	-1
1888	-005	-1
1889	+003	-1
1890	-003	-1
1891	-007	0
1892	-002	-1
1893	+007	+3
1894	+013	+2
1895	+003	0
1896	-010	-3
1897	+005	-1
1898	-008	-2
1899	-026	-5
1900	+002	-2
1901	+002	-1
1902	+003	-2
1903	-003	-1

Cloud.

Normal values of the mean monthly and annual amount of cloud at second class stations, obtained from the whole of the available data up to the end of the year 1896, were given in Table XXI of the Annual Summary of 1896. These means are the arithmetical averages of the cloud amounts as registered at 10 A.M. and 4 P.M., and hence represent the mean amount during the day period rather than of the whole 24 hours. Corrections to reduce these means to true daily means have only been used in the case of a few stations.

Departure data of this element of meteorological observation for the year 1903 are given in tables XXIII, XXIV and XXV. Table XXIV gives the mean departure data for the sixteen meteorological areas adopted in the geographical summaries of meteorological data in the Annual Reports previous to 1891, and Table XXV gives similar data for nine meteorological provinces of India.

TABLE XXIII—Departure of the monthly and annual mean cloud proportion in each month of 1903 from the averages of past years.

METEOROLOGICAL PROVINCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
BURMA COAST AND BAY ISLANDS.	Port Blair . . .	-0.3	+0.8	-1.0	-1.2	+0.5	+0.6	+0.5	-0.1	-0.1	+0.3	+0.1	+0.6	+0.1
	Rangoon . . .	+1.4	+1.0	-1.3	-1.8	+0.2	+0.8	-0.1	+0.3	+0.7	+0.3	-2.3	-1.1	-0.2
	Diamond Island . . .	+0.5	-0.8	-1.9	-1.7	-1.0	-0.7	0	+0.1	-0.9	+0.6	-0.9	-1.2	-0.7
	Cocos Island . . .	?	?	?	-2.2	-0.8	-0.9	+0.1	-0.3	-0.9	+0.9	-0.2	-1.1	?
	Akyab . . .	-0.6	+1.2	+0.7	+0.1	-0.4	+0.5	-1.1	-0.3	-0.6	+0.5	+0.4	-1.7	-0.1
BENGAL AND ORISSA	Chittagong . . .	+1.5	+0.5	-0.4	-1.2	-1.7	-1.1	-1.3	+0.3	+0.1	-0.2	+0.4	-1.4	-0.4
	Calcutta (Alipore) . . .	+2.2	+0.5	-0.2	-1.4	-0.4	+0.1	-0.5	+0.4	+0.9	+1.6	+0.7	-0.8	+0.3
	Saugor Island . . .	+3.1	+0.8	-0.2	-1.5	-1.2	-0.3	-0.4	+1.2	+1.4	+1.4	+1.1	-1.3	+0.3
	False Point . . .	+3.4	+0.2	-0.2	-1.9	-0.3	+0.4	-0.1	+0.8	+1.4	+1.0	+2.0	-0.8	+0.5
GANGETIC PLAIN AND CHOTA NAGPUR.	Hazaribagh . . .	+2.0	+0.5	-0.7	+0.5	+2.3	+0.5	0	+1.0	+1.7	+1.8	-0.6	-1.3	+0.6
	Darbhanga . . .	+1.0	-1.0	-0.7	-0.4	-0.3	-0.2	-2.1	+0.9	+0.2	+1.5	-0.5	-0.8	-0.2
	Allahabad . . .	+0.4	0	-0.5	0	+1.3	-1.8	-1.9	+0.6	+2.2	+3.4	-0.5	-0.8	+0.2
	Dehra Dun . . .	-0.8	-0.2	+1.5	+2.1	+0.8	0	-1.8	+0.1	+2.0	+0.6	-0.3	+0.1	+0.3
UPPER SUB-HIMALAYAS.	Roorkee . . .	-0.9	-1.1	+1.0	+0.1	-0.1	-2.9	-2.4	-0.9	+0.6	+0.5	-0.2	-0.8	-0.6
	Meerut . . .	-1.4	-1.0	-0.1	+0.3	+0.9	+3.0	-1.3	-0.6	+1.0	+0.5	-0.2	-0.8	0
	Lahore . . .	-0.9	-0.3	+1.0	+1.6	+0.4	-2.1	-0.9	-0.7	+0.9	-0.6	+0.4	-0.1	-0.1
	Ludhiana . . .	-2.1	-2.2	-0.7	-0.4	+0.2	-2.9	-1.7	-1.9	+0.5	-0.5	-0.8	-1.7	-1.2
INDUS VALLEY AND NORTH-WEST RAJPUTANA.	Peshawar . . .	-1.8	-0.6	0	+0.8	+1.4	-0.2	+0.7	-0.5	-0.4	-1.1	-0.4	+0.1	-0.2
	Jacobabad . . .	-1.4	-1.5	-0.7	-0.3	+0.9	-0.6	+0.2	-0.3	+0.3	-0.4	-0.3	-0.6	-0.4
	Kurrachee . . .	-1.2	-2.0	-1.6	-0.2	-0.9	-1.7	-2.9	-3.7	-1.3	-0.2	0	-0.5	-1.4
EAST RAJPUTANA, CENTRAL INDIA AND GUJARAT.	Jaipur . . .	-0.2	-0.6	-0.8	+0.1	+1.8	-2.2	-1.1	0	+1.4	+0.8	-0.3	-0.5	-0.1
	Deesa . . .	-0.3	-1.5	-1.2	-0.7	-0.7	-2.5	-1.5	-0.4	+0.3	-0.8	-0.8	-0.8	-0.9

TABLE XXIII.—Departure of the monthly and annual mean cloud proportion in each month of 1903 from the averages of past years—concl'd.

METEOROLOGICAL PROVINCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
DECCAN . . .	Belgaum . . .	+1'5	—0'1	—0'9	—0'4	+0'6	+0'1	+0'6	—0'1	+0'6	+0'1	+0'7	—1'1	+0'1
	Sholapur . . .	+2'3	—0'4	—2'0	—0'3	+0'5	+0'4	+1'0	+0'4	+0'4	—0'5	+0'4	—1'6	+0'1
	Akola . . .	+2'4	—0'8	—1'1	—0'6	+1'9	—1'2	+0'6	+0'4	+1'1	+1'6	—0'4	—1'1	+0'2
	Buldana . . .	+2'3	—1'2	—1'5	—0'9	+0'6	—2'5	+0'7	+1'1	+1'1	+1'1	—1'0	—1'6	—0'2
	Khandwa . . .	+1'7	—0'7	—1'3	—0'3	+2'0	—1'0	+0'1	+0'4	+2'3	+1'3	—0'9	—1'2	+0'2
	Nagpur . . .	+0'8	+0'1	—1'7	—0'4	+0'7	—0'5	—0'3	—0'7	—0'3	+1'2	—0'2	—1'2	—0'2
	Hyderabad (Deccan) . . .	+2'4	+1'6	—0'9	—0'7	+1'7	+0'8	+1'2	+0'7	+0'8	+1'3	+1'6	—0'7	+0'8
WEST COAST . . .	Bombay . . .	+1'2	—1'0	—1'1	—1'0	—0'3	—0'9	+0'2	—0'1	+0'2	0	—0'7	—0'7	—0'4
	Karwar . . .	+0'4	—0'1	—0'9	—0'9	—0'8	—1'4	+1'2	—0'2	—0'3	—1'4	+0'9	—0'1	—0'3
	Salem . . .	+2'2	+1'9	—0'9	+0'6	+0'7	+0'2	+1'6	+1'1	+2'2	+1'1	+2'7	+0'1	+1'1
SOUTH INDIA . . .	Chitaldroog . . .	+1'6	—0'5	—1'8	—1'5	+0'3	—1'6	+0'1	+0'3	—0'1	+0'1	+0'9	+0'5	—0'1
	Bangalore . . .	+0'3	—0'1	—1'9	—1'0	+0'4	+1'0	+2'0	+1'8	+1'9	+1'2	+1'5	—0'2	+0'6
	Hassan . . .	+1'4	+0'6	—2'1	—0'7	+0'9	—0'1	0	+0'2	+0'6	+0'6	+0'4	+0'1	+0'2
	Mysore . . .	+2'8	+1'9	0	+2'6	+1'6	+1'3	+0'5	+0'6	+1'5	+1'8	+0'4	+0'7	+1'3
	Madras . . .	—0'1	+0'2	—1'0	—0'6	+0'5	—0'9	+0'4	—0'3	—0'3	—0'5	+0'7	+0'1	—0'2
	Bellary . . .	+2'5	+0'9	—0'8	+0'1	+1'1	—0'8	+0'6	+0'1	+0'5	0	+1'0	—0'5	+0'4
HILL STATION, BALUCHISTAN,	Quetta . . .	—1'6	—0'9	—0'1	+0'9	+1'1	—0'1	—0'4	—0'5	—0'2	—0'6	—0'2	—0'5	—0'3
HILL STATIONS, NORTHERN INDIA.	Leh . . .	—1'2	—0'6	+2'1	—0'4	—0'2	—0'2	+0'7	—1'3	—2'3	—1'7	—0'1	—0'6	—0'5
	Srinagar . . .	—2'9	—0'6	+2'1	+2'0	+1'8	—1'2	+1'5	—0'3	—1'1	—1'9	+0'3	—0'1	0
	Simla (Ridge) . . .	—0'9	+0'3	+2'2	+1'5	+1'2	—3'0	—1'3	0	+3'5	—0'1	—0'3	—0'2	+0'2
	Chakrata . . .	—1'0	—0'5	+2'2	+1'1	+0'3	—2'1	—2'6	+0'6	—2'2	+0'5	0	—0'1	—0'3
	Ranikhet . . .	—0'6	—0'1	+1'1	—0'1	—0'5	—2'7	—2'2	+0'4	+1'7	+1'1	—0'2	—1'1	—0'3
	Katmandu . . .	—1'9	—0'9	—0'3	—2'1	—1'3	+0'1	—0'2	—0'1	—0'1	+1'4	—0'5	—1'6	—0'7
	Darjeeling . . .	—0'8	—0'4	—1'6	—1'4	—1'4	—1'5	—2'1	—1'4	—1'1	0	—0'3	+0'2	—1'0
HILL STATIONS, CENTRAL INDIA.	Mount Abu . . .	+0'5	—0'9	—1'0	—0'4	+0'5	—2'1	—1'0	+0'3	+1'3	—0'3	—0'6	—0'6	—0'4
	Pachmarhi . . .	+1'6	—0'7	—1'4	—0'2	+1'9	—1'1	0	+0'3	+1'5	+2'6	—0'1	—0'5	+0'3
	Chikalda . . .	+1'7	—0'9	—1'5	—0'7	+1'2	—2'2	—1'3	—1'0	+0'2	+0'8	—1'8	—1'9	—0'6
	Aden . . .	+2'1	+0'5	—0'3	0	+0'4	—0'3	—0'4	0	—0'8	—0'4	—0'7	—1'2	—0'1
EXTRA INDIA . . .	Perim . . .	—1'8	—1'6	—1'2	—1'2	—0'4	—1'3	—1'7	—1'6	—1'9	—0'7	—1'3	—1'1	—1'3
	Zanzibar . . .	+1'8	+2'4	+0'6	+1'5	+0'8	+0'5	+0'6	+1'2	+0'8	+1'1	0	+2'4	+1'1
	Port Victoria (Seychelles) . . .	+0'8	+1'1	—0'4	+1'2	+1'3	+0'2	+0'3	0	+0'7	—0'8	—0'2	—1'3	+0'2
	Mauritius . . .	+0'6	+0'2	+0'2	+0'3	—0'6	+0'1	+0'2	+1'0	+0'8	+0'2	—0'6	0	+0'2

TABLE XXIV.—*Geographical summary of the cloud departure data of Table II in the Monthly Weather Reviews of 1903.*

METEOROLOGICAL AREA.	Number of stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
North-West Himalayas	5	-1'3	-0'3	+1'9	+0'8	+0'5	-1'8	-0'8	-0'1	-0'1	-0'4	-0'1	-0'4	-0'2
Sikkim Himalayas and Nepal	2	-1'4	-0'7	-1'0	-1'8	-1'4	-0'7	-1'2	-0'8	-0'6	+0'7	-0'4	-0'7	-0'8
Punjab Plains	3	-1'6	-1'0	+0'1	+0'7	+0'7	-1'7	-0'6	-1'0	+0'3	-0'7	-0'3	-0'6	-0'5
Gangetic Plain	5	-0'3	-0'7	+0'2	+0'4	+0'5	-0'4	-1'9	0	+1'2	+1'3	-0'3	-0'6	-0'1
Western Rajputana	4	-0'6	-1'5	-1'1	-0'4	-0'1	-1'7	-1'3	-1'0	+0'2	-0'4	-0'4	-0'6	-0'7
Eastern Rajputana and Central India	1	-0'2	-0'6	-0'8	+0'1	+1'8	-2'2	-1'1	0	+1'4	+0'8	-0'3	-0'5	-0'1
Nerbudda Valley	1	+1'7	-0'7	-1'3	-0'3	+2'0	-1'0	+0'1	+0'4	+2'3	+1'3	-0'9	-1'2	+0'2
Chota Nagpur	1	+2'0	+0'5	-0'7	+0'5	+2'3	+0'5	0	+1'0	+1'7	+1'8	-0'6	-1'3	+0'6
Lower Bengal	2	+2'7	+0'7	-0'2	-1'5	-0'8	-0'1	-0'5	+0'8	+1'2	+1'5	+0'9	-1'1	+0'3
Orissa	1	+3'4	+0'2	-0'2	-1'9	-0'3	+0'4	-0'1	+0'8	+1'4	+1'0	+2'0	-0'8	+0'5
Central Provinces (South) and Berar	5	+1'8	-0'7	-1'4	-0'6	+1'3	-1'5	-0'1	0	+0'7	+1'5	-0'7	-1'3	-0'1
Konkan	2	+0'8	-0'6	-1'0	-1'0	-0'6	-1'2	+0'7	-0'2	-0'1	-0'7	+0'1	-0'4	-0'4
Deccan, Hyderabad and Mysore	8	+1'9	+0'5	-1'3	-0'2	+0'9	+0'1	+0'8	+0'5	+0'8	+0'6	+0'9	-0'4	+0'4
East Coast and Carnatic	2	+1'1	+1'1	-1'0	0	+0'6	-0'4	+1'0	+0'4	+1'0	+0'3	+1'7	+0'1	+0'5
Arakan and Pegu	4	+0'7	+0'5	-0'7	-1'2	-0'7	-0'1	-0'6	+0'1	-0'2	+0'3	-0'6	-1'4	-0'3
Bay Islands	1-2	-0'3	+0'8	-1'0	-1'7	-0'2	-0'2	+0'3	-0'2	-0'5	+0'6	-0'1	-0'3	-0'2
Extra-tropical India	24	-0'4	-0'6	+0'1	0	+0'4	-1'2	-1'0	-0'3	+0'6	+0'4	-0'2	-0'7	-0'2
Tropical India	23-24	+1'4	+0'2	-1'1	-0'7	+0'4	-0'4	+0'3	+0'2	+0'5	+0'6	+0'3	-0'7	+0'1
Whole India	47-48	+0'5	-0'2	-0'5	-0'3	+0'4	-0'8	-0'4	0	+0'5	+0'5	0	-0'7	-0'1

TABLE XXV.—*Departures from normal of the mean cloud amount in nine meteorological provinces of India in 1903.*

METEOROLOGICAL PROVINCE.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	YEAR.
Burma Coast and Bay Islands	+0'3	+0'6	-0'9	-1'4	-0'3	+0'1	-0'1	-0'1	-0'4	+0'5	-0'6	-0'9	-0'3
Bengal and Orissa	+2'6	+0'5	-0'3	+1'5	-0'9	-0'3	-0'6	+0'7	+1'0	+1'0	+1'1	-1'1	+0'4
Gangetic Plain and Chota Nagpur	+0'5	-0'2	-0'6	0	+1'1	-0'5	-1'3	+0'8	+1'4	+2'2	-0'5	-1'0	+0'2
Upper Sub-Himalayas	-1'2	-1'0	+0'5	+0'7	+0'4	-1'0	-1'6	-0'8	+1'0	+0'1	-0'2	-0'7	-0'3
Indus Valley and North-West Rajputana	-1'5	-1'4	-0'8	+0'1	+0'5	-0'8	-0'7	-1'5	-0'5	-0'6	-0'2	-0'3	-0'6
East Rajputana, Central India and Gujarat	-0'3	-1'1	-1'0	-0'3	+0'6	-2'4	-1'3	-0'2	+0'9	0	-0'6	-0'7	-0'5
Deccan	+1'9	-0'2	-1'3	-0'5	+1'1	-0'6	+0'6	+0'3	+0'9	+0'9	0	-1'2	+0'2
West Coast	+0'8	-0'6	-1'0	-1'0	-0'6	-1'2	+0'7	-0'2	-0'1	-0'7	+0'1	-0'4	-0'4
South India	+1'5	+0'7	-1'2	-0'1	+0'8	-0'1	+0'7	+0'5	+0'9	+0'6	+1'1	+0'1	+0'5

I.—The cold weather period.—The period was comparatively free from disturbance and the amount of cloud was hence below the normal over the whole tract of country stretching from the Indus valley to Bihar.

The following gives comparative data :—

AREA.	DEPARTURE OF MEAN DAILY CLOUD AMOUNT FROM NORMAL IN		
	January.	February.	Period, January and February.
United Provinces of Agra and Oudh	— 0.7	— 0.6	— 0.7
Punjab	— 1.6	— 1.0	— 1.3
Sind	— 1.3	— 1.8	— 1.6
Rajputana	— 0.3	— 1.1	— 0.7

Cloud was as largely in defect at the hill stations in northwest India and in Baluchistan as in the neighbouring plains.

The following gives data :—

STATION.	DEPARTURE OF MEAN DAILY CLOUD AMOUNT FROM NORMAL IN		
	January.	February.	Period, January and February.
Quetta	— 1.6	— 0.9	— 1.3
Leh	— 1.2	— 0.6	— 0.9
Srinagar	— 2.9	— 0.6	— 1.8
Simla	— 0.9	+ 0.3	— 0.3
Chakrata	— 1.0	— 0.5	— 0.8
Ranikhet	— 0.6	— 0.1	— 0.4
Katmandu	— 1.9	— 0.9	— 1.4

Cloud was throughout the period in excess in Bengal Orissa, Chota Nagpur and southern India in which areas the cold-weather precipitation was above the normal.

The following gives data :—

AREA.	DEPARTURE OF MEAN DAILY CLOUD AMOUNT FROM NORMAL IN		
	January.	February.	Period, January and February.
Bengal	+ 2.3	+ 0.6	+ 1.5
Orissa	+ 3.4	+ 0.2	+ 1.8
Chota Nagpur	+ 2.0	+ 0.5	+ 1.3
Mysore	+ 1.5	+ 0.5	+ 1.0
Madras Coast	— 0.1	+ 0.2	+ 0.1
South India	+ 2.2	+ 1.9	+ 2.1

In Bihar, the Central Provinces, Berar, the Bombay Decan and West Coast there was an excess of cloud in

January and a slight to moderate defect in February; on the mean of the period cloud was normal or in slight to moderate excess.

The following gives comparative data :—

AREA.	DEPARTURE OF MEAN DAILY CLOUD AMOUNT FROM NORMAL IN		
	January.	February.	Period, January and February.
Bihar	+ 1.0	— 1.0	0
Central Provinces . .	+ 1.3	— 0.3	+ 0.5
Berar	+ 2.4	— 1.0	+ 0.7
Bombay Decan	+ 1.9	— 0.2	+ 0.9
West Coast	+ 0.8	— 0.6	+ 0.1

Cloud was in slight excess throughout the period in Burma, as is shown below :—

AREA.	DEPARTURE OF MEAN DAILY CLOUD AMOUNT FROM NORMAL IN		
	January.	February.	Period, January and February.
Burma	+ 0.4	+ 0.5	+ 0.5

II.—The hot weather period.—The cloud amount differed rather irregularly from the normal from month to month during this period. In March there was less cloud than usual everywhere with the exception of the submontane and hill districts of upper India. In April skies were clouded to a greater extent than usual in Chota Nagpur, the United Provinces, the Punjab and South India, but were even more free from cloud than usual over the remainder of India. In May cloud was in excess over nearly the whole of the Peninsula and in north-western and central India, where weather was more disturbed than usual.

The following is a summary of the chief abnormal features :—

- (1) There was on the average of the whole period a moderate deficiency of cloud in Burma and north-eastern India due chiefly to an unusually small amount of cloud in April.

The following gives data for these areas :—

AREA.	DEPARTURE OF MEAN DAILY CLOUD AMOUNT FROM NORMAL IN			
	March.	April.	May.	Period, March to May.
Burma	— 0.3	— 1.1	— 0.4	— 0.8
Bengal	— 0.3	— 1.4	— 1.1	— 0.9
Bihar	— 0.7	— 0.4	— 0.3	— 0.5

- (2) Skies were more clouded than usual on the mean of the period in Chota Nagpur, the United Provinces and the Punjab, as is shown below:—

AREA.	DEPARTURE OF MEAN DAILY CLOUD AMOUNT FROM NORMAL IN			
	March.	April.	May.	Period, March to May.
Chota Nagpur	—0'7	+0'5	+2'3	+0'7
United Provinces of Agra and Oudh.	+0'5	+0'6	+0'7	+0'6
Punjab	+0'1	+0'7	+0'7	+0'5

- (3) The amount of cloud was larger than usual in Baluchistan and the hill districts of upper India, practically normal in the Aravallis and Satpuras and in large defect in the Nepal and Sikkim Himalayas.

The following gives data for representative stations:—

STATION.	DEPARTURE OF MEAN DAILY CLOUD AMOUNT FROM NORMAL IN			
	March.	April.	May.	Period, March to May.
Quetta	—0'1	+0'9	+1'1	+0'6
Leh	+2'1	—0'4	—0'2	+0'5
Srinagar	+2'1	+2'0	+1'8	+2'0
Simla	+2'2	+1'5	+1'2	+1'6
Chakrata	+2'2	+1'1	+0'3	+1'2
Katmandu	—0'3	—2'1	—1'3	—1'2
Darjeeling	—1'6	—1'4	—1'4	—1'5
Mount Abu	—1'0	—0'4	+0'5	—0'3
Pachmarhi	—1'4	—0'2	+1'9	+0'1

- (4) Cloud was in slight defect in Sind, Rajputana and the whole of the Peninsula with the exception of the Madras Deccan and South India where it was practically normal in amount. The deficiency was greatest in the West Coast where it averaged 0'9 for the period. The following data illustrate these features:—

AREA.	DEPARTURE OF MEAN DAILY CLOUD AMOUNT FROM NORMAL IN			
	March.	April.	May.	Period, March to May.
Sind	—1'2	—0'3	0	—0'5
Rajputana	—1'0	—0'3	+0'6	—0'2
Central Provinces	—1'5	—0'4	+1'4	—0'2
Berar	—1'3	—0'8	+1'3	—0'3
Orissa	—0'2	—1'9	—0'3	—0'8
West Coast	—1'0	—1'0	—0'6	—0'9
Bombay Deccan	—1'5	—0'4	+0'6	—0'4
Mysore	—1'5	—0'2	+0'8	—0'3
Madras Coast	—1'0	—0'6	+0'5	—0'4
Madras Deccan	—0'9	—0'3	+1'4	+0'1
South India	—0'9	+0'6	+0'7	+0'1

III.—The south-west monsoon period.—As usual during this period the departures of cloud amount from the normal were related directly to variations in the rain-giving capacity and extension of the monsoon currents. In June the Arabian Sea current was weak and determined chiefly to south India and the Deccan, while the Bay current was restricted to Burma and Bengal. There was accordingly much less cloud than usual in the interior of northern India and the coast districts of the Peninsula. In July the Bay branch of the monsoon was unusually feeble as a rain-giving current and skies were much less clouded than usual in its field. There was on the other hand more cloud than usual over the greater part of the region dominated by the westerly branch of the monsoon. Both currents were strong during the next two months and the area of deficient cloud contracted considerably during August. In September it included only Burma, Sind and the coast districts of the Peninsula.

The chief features of the distribution of cloud during the period were as follows:—

- (a) There was on the whole more cloud than usual over the greater part of the Peninsula, the excess being most marked in South India where it averaged 1'3. The following gives data for the area:—

AREA.	DEPARTURE FROM NORMAL OF MEAN DAILY AMOUNT OF CLOUD IN				
	June.	July.	August.	September.	Period, June to September
Central Provinces	—0'8	—0'1	—0'2	+1'0	0
Berar	—1'9	+0'7	+0'8	+1'1	+0'2
Orissa	+0'4	—0'1	+0'8	+1'4	+0'6
West Coast	—1'2	+0'7	—0'2	—0'1	—0'2
Bombay Deccan	+0'3	+0'8	+0'2	+0'5	+0'5
Mysore	+0'2	+0'7	+0'7	+1'0	+0'7
Madras Coast	—0'9	+0'4	—0'3	—0'3	—0'3
Madras Deccan	0	+0'9	+0'4	+0'7	+0'5
South India	+0'2	+1'6	+1'1	+2'2	+1'3

- (b) Skies were less clouded than usual in Sind, Rajputana, the Punjab and the United Provinces. The proportion of cloud was relatively, to the normal, least in Sind where the deficiency on the mean of the period was as much as 1·3.

The following gives data for this area of deficient cloud :—

AREA.	DEPARTURE OF MEAN DAILY AMOUNT OF CLOUD FROM NORMAL IN				
	June.	July.	August.	September.	Period, June to September.
Sind	—1·2	—1·4	—2·0	—0·5	—1·3
Rajputana	—2·4	—1·3	—0·2	+0·9	—0·8
Punjab	—1·7	—0·6	—1·0	+0·3	—0·8
United Provinces of Agra and Oudh.	—0·4	—1·9	—0·2	+1·5	—0·3

- (c) There was also a slight to considerable deficiency of cloud at the hill stations in northern India, as is shown below :—

STATION.	DEPARTURE OF MEAN DAILY AMOUNT OF CLOUD FROM NORMAL IN				
	June.	July.	August.	September.	Period, June to September.
Leh	—0·2	+0·7	—1·3	—2·3	—0·8
Srinagar	—1·2	+1·5	—0·3	—1·1	—0·3
Simla	—3·0	—1·3	0	+3·5	—0·2
Chakrata	—2·1	—2·6	+0·6	—2·2	—1·6
Ranikhet	—2·7	—2·2	+0·4	+1·7	—0·7
Katmandu	+0·1	—0·2	—0·1	—0·1	—0·1
Darjeeling	—1·5	—2·1	—1·4	—1·1	—1·5
Mount Abu	—2·1	—1·0	+0·3	+1·3	—0·4

- (d) Cloud was approximately normal in Burma, Bengal and Bihar and in slight excess in Orissa and Chota Nagpur :—

AREA.	DEPARTURE OF MEAN DAILY CLOUD AMOUNT FROM NORMAL IN				
	June.	July.	August.	September.	Period, June to September.
Burma	+0·2	—0·4	0	—0·3	—0·1
Bengal	—0·4	—0·7	+0·6	+0·8	+0·1
Bihar	—0·2	—2·1	+0·9	+0·2	—0·3
Chota Nagpur	+0·5	0	+1·0	+1·7	+0·8

IV.—The retreating south-west monsoon period.—The following summarizes the chief features of the cloud distribution during this period :—

- (1) Cloud was in general excess over Burma, north-east India and the United Provinces in October and in defect in November and December :—

AREA.	DEPARTURE OF MEAN DAILY CLOUD AMOUNT FROM NORMAL IN			
	October.	November.	December.	Period, October to December.
Burma	+0·5	—0·9	—1·3	—0·6
Bengal	+0·9	+0·7	—1·2	+0·1
Orissa	+1·0	+2·0	—0·8	+0·7
Bihar	+1·5	—0·5	—0·8	+0·1
Chota Nagpur	+1·8	—0·6	—1·3	0
United Provinces of Agra and Oudh.	+1·3	—0·3	—0·6	+0·1

- (2) Cloud was deficient throughout the period in the Punjab, Sind and Rajputana, data for which are given below :—

AREA.	DEPARTURE OF MEAN DAILY AMOUNT OF CLOUD FROM NORMAL IN			
	October.	November.	December.	Period, October to December.
Punjab	—0·7	—0·3	—0·6	—0·5
Sind	—0·3	—0·2	—0·6	—0·4
Rajputana	0	—0·6	—0·7	—0·4

- (3) Over the Central Provinces and Berar cloud was in considerable excess in October and in marked defect in the next two months :—

AREA.	DEPARTURE OF MEAN DAILY AMOUNT OF CLOUD FROM NORMAL IN			
	October.	November.	December.	Period, October to December.
Central Provinces	+1·3	—0·6	—1·2	—0·2
Berar	+1·4	—0·7	—1·4	—0·2

- (4) Skies were more clouded than usual during the period over Madras and Mysore. They were on the other hand on the mean of the period

slightly clearer than usual in the West Coast and the Bombay Deccan :—

AREA.	DEPARTURE OF MEAN DAILY CLOUD AMOUNT FROM NORMAL IN			
	October.	November.	December.	Period, October to December.
West Coast . . .	—0'7	+0'1	—0'4	—0'3
Bombay Deccan . .	—0'2	+0'6	—1'4	—0'3
Mysore . . .	+0'9	+0'8	+0'3	+0'7
Madras Coast . .	—0'5	+0'7	+0'1	+0'1
Madras Deccan . .	+0'7	+1'3	—0'6	+0'5
South India . . .	+1'1	+2'7	+0'1	+1'3

(5) Cloud was in general defect on the whole at the Himalayan stations and in Kashmir and Baluchistan, as is shown below :—

STATION.	DEPARTURE OF MEAN DAILY CLOUD AMOUNT FROM NORMAL IN			
	October.	November.	December.	Period, October to December.
Quetta . . .	—0'6	—0'2	—0'5	—0'4
Leh . . .	—1'7	—0'1	—0'6	—0'8
Srinagar . . .	—1'9	+0'3	—0'1	—0'6
Simla . . .	—0'1	—0'3	—0'2	—0'2
Chakrata . . .	+0'5	0	—0'1	+0'1
Ranikhet . . .	+1'1	—0'2	—1'1	—0'1
Katmandu . . .	+1'4	—0'5	—1'6	—0'2

The year.—The mean cloud amount of the year was 0'2 in defect in extra-tropical India and 0'1 in excess in tropical India. Hence on the mean of the whole Indian area there was a defect of 0'1 in the cloud amount of the year.

The deficiency was greatest in the Sikkim Himalayas and Nepal (—0'8), Western Rajputana (—0'7) and the Punjab Plains (—0'5). The area of greatest excess included

Chota Nagpur (+0'6), and East Coast and Carnatic and Orissa (each +0'5).

The following gives data for extra-tropical and tropical India and for the whole of India for the four periods into which the year is divided and for the year:—

AREA.	DEPARTURE OF MEAN CLOUD AMOUNT FROM NORMAL IN				
	Period I.	Period II.	Period III.	Period, IV.	Whole year.
Extra-tropical India . . .	—0'5	+0'2	—0'5	—0'2	—0'2
Tropical India . . .	+0'8	—0'5	+0'2	+0'1	+0'1
Whole India . . .	+0'2	—0'1	—0'2	—0'1	—0'1

The following gives the departure of the mean amount of cloud in the Indian area, year by year, for the period 1875—1903 :—

YEAR.	Amount of departure.	YEAR.	Amount of departure.
1875 . . .	0	1889 . . .	+0'1
1876 . . .	—0'2	1890 . . .	+0'2
1877 . . .	+0'3	1891 . . .	+0'1
1878 . . .	+0'1	1892 . . .	+0'1
1879 . . .	—0'1	1893 . . .	+0'5
1880 . . .	—0'2	1894 . . .	+0'5
1881 . . .	—0'1	1895 . . .	+0'1
1882 . . .	0	1896 . . .	—0'2
1883 . . .	+0'1	1897 . . .	0
1884 . . .	—0'1	1898 . . .	—0'2
1885 . . .	+0'2	1899 . . .	—0'3
1886 . . .	+0'2	1900 . . .	+0'2
1887 . . .	—0'1	1901 . . .	+0'1
1888 . . .	—0'2	1902 . . .	—0'1
		1903 . . .	—0'1

Snowfall.

A. The following summarizes the chief features of the distribution and accumulation of the snowfall during the cold and hot weather of 1902-03:—

- (1) The snowfall in the Afghan and Baluch mountain districts was probably heavier than usual, chiefly due to the late precipitation in March and April.
- (2) The snowfall in the Chitral and Gilgit region and in the Pamir plateau to the north was much heavier than usual.
- (3) The snowfall of the whole period was apparently excessive in the Hazara and Kashmir mountain districts. It was especially heavy in March in which month 50 feet is reported to have fallen at Narang (elevation 8,000 feet), in Hazara and 25 feet at Sonemarg (elevation 9,000 feet) in Kashmir.
- (4) The snowfall was considerably below the normal up to February in the Punjab Himalayas. Heavy snow fell in March and moderate snow in April and accumulation at the end of May was probably normal. It may be noted that in consequence of the dry winter in 1901-02, the snow accumulation in the western Himalayas was unusually scanty at the commencement of the cold season.
- (5) A noteworthy feature of the precipitation was that it was generally in moderate to large excess on the higher elevations and interior ranges in the western Himalayas, but was more or less below the normal on the outer ranges. This is fully confirmed by the information from Lahoul, the Simla hill districts, Chamba and Kulu.
- (6) The data for the Kulu passes indicated that the snow accumulation at the end of April in that region was similar in amount to that of the same period in 1898 and perhaps 1892 and was less than usual.
- (7) The snowfall in Garhwal and Kumaon was somewhat heavier than usual.
- (8) In Assam and upper Burma, according to the scanty information available, the snowfall seems to have been less than usual except on the hills to the north and east of Sadiya, where it was

reported to have been larger than during the corresponding period of the previous year.

- (9) The chief feature of the season was the frequent and heavy snowfall in March and the lighter snowfall in April. This snowfall modified the temperature and pressure conditions largely in north-western India in March, April and May.
- (10) Except perhaps in Kashmir and the Hazara, Chitral, Gilgit and Pamir regions, there was probably no unusual accumulation of snow and the snowfall conditions at the end of May were hence not abnormal.

B. The following is similar information for the monsoon period, June to September:—

During June the amount of snow on the hills appears to have been rather above the average in Chitral and to have been somewhat below the average in the Kumaon hills.

Early in July a little snow fell in the Chitral district. In the mountain regions of the Punjab and the United Provinces the fall was approximately normal.

The most important feature of these months was the heavy snowfall down to about 8,000 feet or 9,000 feet in the mountain ranges and valleys east of Kashmir. The data for Sonemarg indicate that the fall was abnormally heavy as well as unusually late in the season.

In August a light fall occurred on the mountains near Gulmarg and a moderate fall in the parts of the Kumaon-Himalayas. Little or no snow fell in September except in Malla Johar and Malla Danpur (Kumaon Himalayas) where the total fall of the month measured 3 feet and 1 foot 4 inches, respectively.

C. The distribution of snowfall from October to December was characterized by the following features:—

- (a) In October the snowfall was about the average in the Punjab Himalayas and moderately heavy in Kashmir and parts of the Kumaon Himalayas.
- (b) There were occasional falls in November in the Afghan mountains and the western Himalayas: they were, however, in all cases light.
- (c) There were frequent snowstorms in Afghanistan and the upper India hill districts during the last eleven days of December. The snow line descended as low as 3,080 feet in the Kulu hills. The total fall exceeded the normal in the Punjab Himalayas and also in Afghanistan as represented by Kabul.

Rainfall.

The rainfall data of India are now issued in a separate volume. The thirteenth volume, that of 1903, contains the whole rainfall data of 2,464 stations, which are classified under their respective administrative divisions according to the following scheme :—

PROVINCE.	Number of stations.
Burma	176
Assam	119
Bengal, Bihar, Chota Nagpur and Orissa	380
United Provinces of Agra and Oudh	277
Punjab	189
North-West Frontier Province	32
Bombay	283
Madras	399
Coorg	10
Central Provinces and Berar	132
Mysore	77
Baluchistan	54
Kashmir	37
Rajputana	157
Central India	66
Hyderabad (Deccan)	23
Travancore	39
Cochin	3
Pudukota	11

The information includes monthly statements of—

- (a) the actual rainfall, day by day, of all the rainfall stations;
- (b) the total rainfall of the month;
- (c) the number of rainy days during the month;

- (d) the average or normal rainfall of the month of all stations for which rainfall data of at least five years are available;
- (e) the average or normal number of rainy days of the month for all stations for which rainfall data of five years or upwards are available;
- (f) the accumulated rainfall (up to the date of each statement) throughout each of the seasons into which the year is divided.

Symons's rain-gauges are now used at all rain-gauge stations, with the exception of those in Mysore. The hour of measuring rainfall is 8 A.M. throughout India, and the amounts registered give the rainfall of the previous 24 hours, and hence generally of the previous civil day.

Table XXVI gives the departures of the monthly and annual rainfall in 1903 of 540 stations in India, Baluchistan and Burma.

The four tables (Tables XXVII to XXX) give summaries of the rainfall data of the year. In the first two tables (Tables XXVII and XXVIII) the summaries are drawn up in the form that was used for many years in the Annual Reports issued by the Department. In the two succeeding tables (Tables XXIX and XXX) the rainfall data (derived from the returns of 2,464 rain-gauge stations in India) are given for the 57 meteorological districts into which the Empire is divided for the comparison of crops and rainfall for the four periods into which the year may be arranged. The four periods are as follows:—

- 1st.—From January 1st to February 28th, which forms the period of the cold-weather rains of upper India.
- 2nd.—From March 1st to May 31st, which includes the hot season, when rain occurs mainly in the coast districts, and in Assam during thunderstorms.
- 3rd.—From June 1st to October 31st, which forms the period of the south-west monsoon rains proper.
- 4th.—From November 1st to December 31st, which includes the period of the so-called north-east monsoon rains of southern India, more especially of the Coromandel coast districts.

TABLE XXVI.—Departure of the monthly and total rainfall (in inches) in 1903 from the averages of past years.

PROV- INCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
BALUCHISTAN.	Pishin . .	—1'20	—1'13	+4'49	+2'53	+0'39	—0'03	—0'16	—0'16	—0'01	—0'05	—0'32	—1'04	+3'31
	Chaman . .	—1'19	—2'05	+2'53	+1'34	+0'45	—0'07	—0'11	0	0	—0'04	—0'61	—1'00	—0'75
	Quetta (Hos- pital).	—0'88	—0'92	+3'50	+1'66	+0'54	—0'11	—0'47	—0'51	—0'11	—0'08	—0'16	—0'74	+1'72

TABLE XXVI.—*Departure of the monthly and total rainfall (in inches) in 1903 from the averages of past years—contd.*

PROV- INCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
BALUCHISTAN—contd.	Mach . .	—0·87	—1·10	+0·90	+0·42	+0·79	—0·56	+0·47	—0·52	—0·03	—0·34	—0·23	—0·70	—1·77
	Beleli . .	+1·46	—1·10	+3·00	+1·35	+0·06	—0·14	—0·09	—0·40	—0·03	—0·06	—0·81	—1·34	+1·90
	Kuchlak . .	—1·28	—1·08	+3·61	+3·33	+0·84	—0·08	—0·13	—0·16	—0·12	—0·10	—0·61	—1·31	+2·91
	Fort Sande- man.	—0·23	—0·78	+0·94	+0·43	+0·17	—0·91	—1·05	—0·93	—0·06	—0·05	—0·07	—0·29	—2·83
	Bostan . .	—0·87	—1·67	+2·94	+2·21	+1·52	—0·18	—0·30	—0·16	—0·03	—0·09	—0·26	—1·45	+1·66
	Varookarez . .	+0·46	—0·93	+3·61	+2·06	+0·08	—0·04	—0·01	—0·15	0	—0·05	—0·13	—1·59	+3·91
	Syed Hamid . .	—0·95	—1·65	+3·72	+2·23	+0·48	—0·01	0	0	0	—0·37	—0·54	—0·89	+2·32
	Gulistan . .	—0·91	—1·77	+3·36	+1·64	—0·02	—0·04	—0·03	0	—0·04	—0·06	—0·70	—1·09	+0·34
	Killa Abdulla . .	—1·05	—2·25	+2·55	+2·16	+0·38	—0·03	—0·08	—0·02	—0·02	—0·10	—1·18	—0·84	—0·48
	Khanai . .	—1·62	+2·08	+1·48	+1·12	+1·07	—0·18	—0·05	—0·13	0	—0·07	—0·42	—0·79	+2·49
	Fuller's Camp . .	+0·25	—0·70	+4·19	+0·98	+0·77	—0·14	—0·41	—0·11	—0·06	—0·10	—0·60	—0·82	+3·25
	Kachh . .	—0·14	—1·75	+3·42	+0·48	+2·01	—0·26	—0·30	—0·15	—0·11	—0·07	—0·72	—1·25	+0·17
	Mudgorge . .	—0·30	—1·01	+3·02	+1·47	+1·12	—0·11	—0·42	—0·22	—0·05	—0·09	—0·99	—0·79	+1·63
	Mangi . .	+0·58	—0·68	+3·45	+0·55	+0·65	—0·64	—0·34	—0·13	—0·12	—0·06	—0·81	—1·17	+1·28
	Dirgi . .	—0·48	—0·81	+2·27	+1·39	+0·30	—0·38	—0·41	—0·23	—0·30	—0·05	—0·45	—1·11	+0·24
	Khost . .	—1·19	—1·11	+2·37	+1·07	+0·53	—0·10	—0·34	—0·51	—0·20	—0·06	—0·96	—0·95	—1·45
	Shahrig . .	—1·48	—1·02	+1·73	+1·65	+0·61	—0·05	+0·21	—0·47	+0·07	—0·06	—0·76	—0·76	—0·33
	Nasak . .	—0·75	—1·11	+0·91	+0·77	+1·15	—0·02	—0·21	—0·63	—0·23	—0·08	—0·66	—1·01	—1·87
	Harnai . .	—0·86	—1·21	+0·82	+0·53	+0·18	—0·65	—0·10	—1·04	—0·20	—0·07	—0·52	—0·98	—4·10
	Sunari . .	—0·83	—0·74	+1·00	+0·33	+0·22	—0·78	—0·55	+0·16	—0·24	—0·08	—0·50	—0·77	—2·78
	Spintangi . .	—0·60	—0·86	+0·19	+0·26	+0·54	—0·42	+4·05	—2·15	—0·24	0	—0·33	—0·74	—0·30
	Mushkof . .	—0·13	—0·27	+0·08	+0·26	+0·30	—0·17	+0·02	—0·60	—0·10	0	—0·07	—0·51	—1·19
	Babar Kach . .	—0·53	—0·65	+0·21	+0·62	+0·23	—0·31	—0·82	—1·45	—0·06	—0·03	—0·17	—0·59	—3·55
	Loralai (Hos- gitsl. Nai . .	—0·03	—0·44	+0·20	+0·89	+1·24	—0·12	—0·11	—0·91	+1·03	—0·03	—0·09	—0·41	+1·22
		—0·48	—0·62	—0·30	+0·02	+0·04	—0·25	—0·28	—0·33	—0·23	—0·01	+0·01	—0·51	—2·94
	Sibi Hospital . .	—0·58	—0·37	+0·06	+0·02	+0·14	—0·22	+1·17	—0·97	+0·23	0	—0·11	—0·01	—1·24
	Kolepur . .	—0·72	—0·50	+2·08	+1·59	+0·68	—0·09	—1·00	—0·49	—0·08	—0·03	—0·25	—1·14	+0·05
	Hirok . .	—1·90	—1·28	+2·78	+1·35	+0·38	—0·36	—0·98	—0·34	—0·21	—0·07	—0·92	—1·25	—2·80
	Mittri . .	—0·41	—0·30	—0·22	—0·29	+0·49	—0·22	—0·25	+0·27	—0·06	—0·01	—0·15	—0·43	—1·58
	Lindsay . .	—0·30	—0·32	—0·17	+0·33	+0·67	—0·16	—0·54	—0·86	—0·22	0	—0·12	—0·39	—2·08
	Bellput . .	—0·28	—0·16	—0·03	+0·53	+0·97	—0·17	—0·78	—1·01	—0·08	0	—0·15	—0·27	—1·43
	Nuttal . .	—0·35	—0·37	—0·14	—0·10	—0·22	—0·09	+0·93	—0·86	—0·15	0	—0·35	—0·40	—2·10
	Temple Dera . .	—0·37	—0·29	—0·10	+0·13	+0·22	—0·18	+0·33	—1·00	—0·04	0	—0·18	—0·28	—1·76

TABLE XXVI.—*Departure of the monthly and total rainfall (in inches) in 1903 from the averages of past years.—contd.*

PROV- INCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
BALUCHIS- TAN.— <i>contd.</i>	Jhatput	-0'22	-0'30	-0'01	+0'10	+0'39	-0'17	+2'24	-0'85	-0'08	0	-0'18	-0'24	+0'68
	Sangal .	+2'82	-0'89	+3'76	+1'75	+0'40	+0'12	-0'13	-0'03	0	-0'08	-0'49	-1'23	+6'00
	Shelabagh .	-1'92	-1'44	+5'25	+3'61	+0'44	+0'24	-0'40	-0'02	0	-0'10	-0'54	-1'11	+4'11
	Panir .	-0'53	-0'40	+0'12	+0'46	+0'30	-0'08	-0'40	-0'48	-0'03	-0'01	-0'09	-0'58	-1'72
	Abbottabad .	+0'32	-3'26	+3'65	-1'87	+2'92	-2'58	-3'94	-2'79	+1'52	-0'82	-0'57	-0'80	-8'22
	Cherat .	-0'77	-3'30	+2'58	-1'33	+0'59	+0'62	-1'55	-1'28	+1'55	-0'10	-0'12	-0'06	-3'17
	Murree (Obsy.)	+0'97	-3'19	+3'12	-2'09	+1'10	-1'98	-3'43	-2'06	+4'14	-1'67	-0'89	-1'20	-7'18
	Poo .	-0'44	-2'75	+5'30	-0'95	-0'18	+0'13	-0'24	+0'03	-0'22	-0'49	-0'43	-0'73	-0'97
	Dharamsala .	+0'54	-3'38	+3'79	-1'46	+0'53	-0'74	-22'25	+0'51	-1'71	-1'25	-0'31	+0'96	-30'35
	Kailang .	-0'23	-3'00	+7'34	-2'06	-0'58	-0'56	+0'13	+0'92	-0'13	-0'46	-0'51	-0'92	-0'06
	Kilba .	-2'13	-4'32	+7'55	-2'37	-0'81	-1'18	-0'71	-0'56	-1'86	-0'60	-1'58	+0'22	-8'35
	Simla (Obsy.)	-0'28	-2'33	+0'72	-1'45	+0'61	-5'27	-7'50	+0'56	+0'76	-0'31	-0'38	+0'71	-14'16
PUNJAB AND NORTH-WEST FRONTIER PROVINCE.	Peshawar .	-0'13	-1'31	+1'84	-0'73	+1'43	-0'14	-1'22	-1'17	+0'46	-0'18	-0'50	+0'48	-1'17
	Kohat .	-0'72	-1'30	+3'51	-0'62	+0'10	-0'26	-2'36	-1'43	+4'85	-0'48	-0'63	+0'57	+1'23
	Bannu .	-0'23	-0'81	+1'87	-0'14	+1'00	-0'86	-0'65	-0'45	-0'53	-0'13	-0'28	+0'11	-1'10
	Dera Ismail Khan.	-0'32	-0'72	+0'64	+0'28	+0'24	-0'54	+1'03	+7'34	+3'78	-0'10	-0'12	-0'17	+11'54
	Dera Ghazi Khan.	-0'11	-0'45	0	-0'17	-0'06	-0'47	-1'33	-0'82	-0'31	-0'05	-0'11	-0'20	-4'08
	Muzaffargarh	-0'23	-0'35	+0'06	-0'33	+0'25	-0'35	+2'87	+0'20	-0'52	-0'08	-0'07	-0'26	+1'19
	Multan (Obsy.)	-0'15	-0'36	-0'02	-0'18	+0'14	-0'43	+1'51	+0'55	-0'48	-0'07	-0'04	-0'16	+0'31
	Jhang .	-0'29	-0'43	+0'02	-0'16	-0'12	+0'25	+4'29	-0'50	+0'34	-0'14	-0'06	-0'29	+2'91
	Montgomery.	-0'42	-0'60	+0'60	-0'21	-0'29	+0'31	+1'07	-1'59	-0'86	-0'13	-0'05	-0'27	-2'44
	Shahpur .	-0'44	-0'05	+0'36	+0'10	-0'15	-0'83	-0'71	+1'53	-1'18	-0'15	-0'22	-0'03	-2'67
	Rawalpindi .	-1'75	-2'00	+1'84	-1'75	+1'38	-1'16	-4'20	+0'27	-0'25	-0'53	-0'64	-0'06	-8'85
	Jhelum .	-1'16	-1'33	+0'10	-0'86	+1'19	-1'73	-0'76	-2'20	+3'05	-0'45	-0'24	-0'46	-5'35
	Gujarat .	-1'34	-1'34	+1'24	-0'88	+0'19	-2'23	-0'45	+0'62	+6'96	-0'42	-0'22	-0'52	-3'65
	Sialkot (Obsy.)	-0'69	-1'85	+1'64	-1'09	+3'01	-2'86	+2'92	-0'55	+5'16	-0'44	-0'25	-0'49	+4'51
	Gujranwala .	-0'56	-1'41	+2'10	-0'63	-0'14	-1'22	+0'90	+4'67	+5'22	+0'86	-0'20	-0'62	+9'06
	Gurdaspur .	-0'50	-1'83	+3'11	-0'49	-0'02	-4'07	+5'94	+3'10	+12'59	-0'49	-0'14	+0'26	+17'46
	Lahore .	-0'35	-1'08	-0'25	-0'49	+0'02	-1'53	-2'29	+0'43	+0'15	-0'33	-0'11	-0'16	-5'99
	Amritsar .	-0'60	-1'18	+1'97	-0'55	-0'03	-1'92	+6'02	-2'36	+6'64	+0'85	-0'18	-0'44	+8'22
	Ferozepur .	+0'99	-0'83	+2'02	-0'51	+0'06	-2'23	+3'80	-0'17	-0'05	-0'51	-0'05	-0'47	+2'00
	Jullundur .	+0'64	-1'25	+1'11	-0'58	-0'08	-2'61	-0'42	-2'96	+2'16	-0'18	-0'09	-0'26	-4'52
	Hoshiarpur .	+1'99	-1'78	+1'41	-0'61	+0'31	-3'22	-2'99	-0'21	+0'27	-0'33	-0'13	+0'54	-4'75

TABLE XXVI.—*Departure of the monthly and total rainfall (in inches) in 1903 from the averages of past years—contd.*

PROV- INCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
PUNJAB AND NORTH-WEST FRONTIER PROVINCE.— <i>contd.</i>	Ludhiana .	—0'48	—1'10	+0'44	—0'46	—0'15	—2'51	—2'62	+1'77	+2'08	—0'81	—0'06	—0'07	—3'97
	Ambala .	+0'95	—1'58	—0'34	—0'55	—0'41	—3'23	—2'88	+0'54	+2'01	—0'14	—0'24	—0'18	—6'05
	Sirsa .	—0'73	—0'35	—0'32	—0'30	—0'32	—1'67	+5'43	—1'22	—1'07	—0'24	—0'02	—0'34	—1'15
	Hissar .	+0'11	—0'42	—0'50	—0'22	+0'53	—1'78	+2'30	—0'13	+2'24	—0'27	—0'07	—0'43	+1'36
	Rohtak .	—0'56	—0'56	—0'54	—0'24	—0'62	—2'27	—0'72	—4'96	—1'16	+0'16	—0'03	—0'51	—12'01
	Delhi (Obsy).	—0'32	—0'61	—0'52	—0'35	—0'46	—3'06	—2'92	—4'17	—1'85	+0'28	—0'10	—0'43	—14'51
	Gurgaon .	—0'27	—0'41	—0'36	—0'16	+0'23	—2'26	—2'02	—0'86	—2'49	+0'17	—0'04	—0'34	—8'81
	Karnal .	—0'12	—1'16	—0'25	—0'41	—0'81	—3'86	—2'78	+2'64	—2'55	—0'28	—0'12	—0'38	—10'08
SIND.	Kurrachee .	—0'31	—0'30	+0'39	—0'13	—0'03	—0'42	+0'45	—1'73	—0'52	—0'04	—0'16	—0'19	—2'99
	Sehwan .	—0'39	—0'28	+0'02	—0'15	—0'01	—0'28	+0'35	—2'38	—0'55	—0'03	—0'12	—0'14	—3'96
	Tatta .	—0'10	+0'42	+0'68	—0'28	+0'09	—0'88	—1'41	—1'79	—0'05	0	—0'19	—0'09	—3'60
	Hyderabad (Obsy).	—0'24	—0'20	+0'51	—0'16	—0'04	—0'43	+2'24	—3'08	—0'39	0	—0'10	—0'05	—1'94
	Umarkot .	—0'17	—0'08	+1'26	—0'08	—0'10	—0'78	+0'38	—3'36	—1'00	—0'14	—0'05	—0'03	—4'15
	Shikarpur .	—0'22	—0'32	—0'22	+0'21	+0'08	—0'10	+0'48	—1'55	—0'18	0	—0'12	—0'18	—2'12
	Rohri .	—0'30	—0'43	—0'34	—0'02	+0'05	—0'22	+1'68	—1'31	—0'22	—0'01	—0'11	—0'19	—1'42
	Jacobabad .	—0'21	—0'27	—0'23	+0'21	+0'20	+0'03	+1'08	—1'25	—0'19	—0'01	—0'12	—0'15	—0'91
CUTCH.	Bhuj .	—0'06	—0'11	+0'13	—0'09	—0'13	—2'04	+3'70	+1'18	+0'23	—0'64	—0'08	—0'06	+2'03
	Rahapur .	0	—0'08	—0'05	—0'08	—0'15	—1'29	+0'26	—1'64	—2'69	—0'46	—0'16	—0'04	—6'38
	Nagar .	—0'14	—0'09	+0'43	—0'04	—0'40	—1'87	+3'75	—3'68	—1'71	—0'24	—0'05	—0'03	—4'07
	Jaisalmer .	—0'26	—0'11	+0'22	—0'12	—0'18	—0'79	+0'02	—1'00	—0'30	0	—0'04	—0'09	—2'65
	Phalodi .	—0'04	—0'16	—0'03	—0'02	—0'27	—0'83	—0'06	—1'05	—0'44	0	0	—0'14	—3'04
	Bikaner .	—0'21	—0'24	—0'18	—0'14	—0'81	—1'25	+1'54	—0'70	+1'22	—0'09	—0'06	—0'09	—1'01
	Nagar .	—0'32	+1'01	—0'15	—0'08	—0'57	—1'97	+4'92	+3'63	—1'17	—0'05	—0'07	—0'26	+4'92
	Didwana .	—0'09	+0'11	—0'10	—0'06	—0'05	—1'21	—0'16	+5'45	+1'96	—0'13	—0'13	—0'29	+5'30
RAJPUTANA.	Jhunjhunu .	—0'43	—0'22	—0'21	—0'06	+0'01	—1'56	—0'70	+2'63	—1'17	+0'36	—0'07	—0'29	—1'71
	Khetri .	—0'64	—0'55	—0'20	—0'07	+1'18	—1'51	+1'52	+5'88	+2'52	+0'58	—0'15	—0'35	+8'21
	Sikar .	—0'43	—0'19	+0'14	—0'10	+0'08	—1'33	+5'46	+0'85	+1'45	—0'20	—0'10	—0'30	+5'33
	Sri-Madhampur	—0'31	—0'50	+0'47	—0'15	—0'21	—1'45	+1'55	+1'62	+0'96	—0'05	—0'18	—0'49	+1'26
	Alwar .	—0'55	—0'42	—0'21	—0'11	—0'58	—3'07	—4'64	—3'97	—3'49	+0'21	—0'17	—0'44	—17'44
	Bharatpur .	—0'30	—0'20	+0'08	—0'12	—0'48	—0'82	—4'17	+0'27	+0'99	+3'46	—0'05	—0'29	—1'63
	Bandikui .	—0'40	—0'19	—0'30	—0'09	—0'20	—1'30	+1'93	+2'90	—0'42	+0'59	—0'16	—0'40	+1'96
	Jaipur .	—0'28	—0'19	—0'28	—0'16	—0'15	—2'76	—3'28	+4'35	+1'48	+0'19	—0'16	—0'35	—1'59
	Sambhar .	—0'09	—0'17	—0'14	—0'14	+0'13	—0'78	+3'50	—1'09	+3'06	—0'15	—0'22	—0'40	+3'51

TABLE XXVI.—*Departure of the monthly and total rainfall (in inches) in 1903 from the averages of past years.—contd.*

PROV- INCE.	STATION.	January.	February	March.	April.	May.	June.	July.	August.	September.	October.	November	December.	TOTAL.
RAJPUTANA— <i>concl.</i>	Karauli .	—0'31	—0'20	—0'15	—0'09	+0'26	—3'05	—2'85	+8'22	+1'85	+3'26	—0'09	—0'34	+6'51
	Lalsot .	—0'32	—0'09	—0'13	—0'06	+0'03	—2'75	+0'65	—0'65	+2'21	+0'20	—0'10	—0'21	—1'22
	Tonk .	—0'19	—0'27	—0'18	—0'08	—0'15	—2'59	—4'37	—1'94	+3'63	—0'38	—0'07	—0'24	—6'83
	Siwai Madho- pur.	—0'29	—0'22	—0'20	—0'10	+0'56	—3'25	—7'42	—0'19	+3'32	+0'63	—0'10	—0'18	—7'44
	Deoli .	—0'24	—0'20	—0'05	—0'14	—0'47	—3'55	—3'77	—0'96	+0'37	—0'23	—0'12	—0'19	—9'55
	Kotah .	—0'17	—0'20	—0'09	—0'13	+0'38	—3'07	+1'35	+4'01	+4'00	+0'13	—0'15	—0'31	+5'75
	Jhalrapatan .	+0'11	—0'28	—0'13	—0'05	—0'28	—2'73	—5'94	—0'98	+17'07	—0'02	—0'23	—0'47	+6'07
	Ajmer .	—0'23	—0'10	—0'13	—0'13	—0'33	—2'22	+1'88	—0'04	—1'80	—0'22	—0'20	—0'29	—3'81
	Nasirabad .	—0'15	—0'31	—0'11	—0'07	—0'20	—1'97	—0'06	—1'30	+3'16	—0'20	—0'18	—0'31	—1'70
	Malpura .	—0'33	—0'05	—0'24	—0'05	—0'02	—1'03	—2'88	—2'77	+2'85	—0'02	—0'02	—0'26	—4'82
	Beawar .	—0'22	—0'01	+0'29	—0'12	—0'12	—1'75	+4'85	—1'27	—0'20	—0'17	—0'18	—0'25	+0'85
	Jodhpur .	—0'24	—0'16	+0'28	—0'06	+0'43	—1'36	+5'07	+0'78	+2'25	—0'19	—0'10	—0'14	+6'56
	Pachpadra .	—0'34	—0'01	+0'19	—0'05	—0'67	—1'44	—0'96	+1'50	—0'79	—0'06	—0'09	—0'12	—2'84
	Jasol .	—0'18	—0'06	+0'10	—0'05	—0'52	—1'55	+1'13	+0'93	+0'05	—0'01	—0'18	—0'08	—0'42
	Barmer .	—0'15	—0'09	+0'20	—0'06	—0'03	—1'54	+2'08	—2'77	—0'73	—0'03	—0'11	—0'05	—3'28
	Pali .	+0'30	—0'02	+0'50	—0'04	0	—2'17	+7'73	—2'31	—0'69	—0'08	—0'25	—0'10	+2'87
	Shahpura .	—0'12	—0'16	—0'15	—0'17	—0'24	—3'28	—1'12	—0'67	+2'26	—0'37	—0'10	—0'24	—4'36
	Erinpura .	+0'12	—0'15	+0'02	—0'05	—0'08	—2'15	+3'36	+0'13	—0'90	—0'21	—0'19	—0'16	—0'26
	Sirohi .	—0'02	+0'14	+0'08	—0'15	+1'36	—3'39	+0'90	—2'10	—1'98	—0'07	—0'22	—0'13	—5'58
	Mount Abu .	—0'27	—0'16	—0'15	—0'08	—0'58	—5'54	—10'19	—12'52	—7'13	—1'46	—0'28	—0'24	—38'60
	Kotra .	—0'11	—0'21	—0'03	—0'04	—0'40	—2'71	+6'30	—2'03	—2'47	—0'54	—0'18	—0'15	—2'57
	Udaipur .	—0'09	—0'15	—0'06	—0'11	+0'54	—3'25	+3'86	+0'94	—0'36	—0'37	—0'18	—0'17	—0'60
	Pratabgarh .	—0'18	—0'10	—0'02	—0'03	—0'51	—5'45	—1'37	—4'19	+5'93	—0'64	—0'25	—0'26	—7'07
	Kherwara .	—0'09	—0'14	—0'03	—0'02	—0'24	—4'68	+7'95	+0'26	+2'39	—0'49	—0'15	—0'11	—4'65
	Banswara .	—0'15	—0'15	—0'01	—0'01	—0'27	—5'67	+3'51	—4'91	+9'27	—0'47	—0'22	—0'36	+0'56
CENTRAL INDIA.	N e e m u c h (Obsy.)	—0'18	—0'13	—0'08	—0'13	—0'34	—4'05	+5'50	—2'10	+4'05	—0'22	—0'17	—0'27	+1'88
	Sirdarpore .	—0'16	—0'18	—0'02	—0'02	—0'05	—3'08	+0'30	—3'19	+3'20	—0'97	—0'20	—0'14	—4'51
	Agar .	—0'12	—0'29	—0'03	—0'06	+0'57	—2'20	+3'91	—6'34	+5'74	—0'61	—0'17	—0'38	+0'02
	Rutlam .	+0'03	—0'18	—0'02	+0'01	—0'15	—2'88	—5'46	—4'19	+4'68	—0'47	—0'24	—0'24	—9'11
	Indore .	—0'23	—0'24	—0'05	—0'17	+0'02	—0'50	+8'64	+0'68	+4'83	—0'65	—0'24	—0'18	+11'91
	B h o p a l (Sehore).	—0'12	—0'22	—0'14	—0'05	+0'26	—6'02	+0'27	—4'21	+4'46	—0'64	—0'38	—0'43	—7'22
	Goona .	—0'49	—0'25	—0'18	—0'12	—0'21	—5'90	—4'59	+1'44	+3'41	+1'97	—0'34	—0'32	—5'58
	Morar .	—0'34	—0'38	—0'15	—0'10	—0'28	—1'95	—1'37	+10'60		Closed.			?

TABLE XXVI.—*Departure of the monthly and total rainfall (in inches) in 1903 from the averages of past years.—contd.*

PROV- INCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
CENTRAL INDIA— <i>concl.</i>	Nowgong .	—0'64	—0'42	—0'21	—0'10	—0'13	—6'61	—10'13	+9'03	+2'20	+6'84	—0'18	—0'48	—0'83
	Sutna .	—0'61	—0'67	—0'32	+0'05	—0'02	—5'69	—8'09	+0'47	+4'16	+9'69	—0'26	—0'41	—1'70
	Nagode .	—0'68	—0'46	—0'22	—0'14	—0'22	—5'26	—8'14	+2'52	+4'04	+12'57	—0'17	—0'17	+3'37
	Maihar .	—0'72	—0'59	—0'16	—0'11	+0'37	—5'70	—9'41	—3'06	+0'80	+6'80	—0'44	—0'50	—12'72
	Rewah .	—0'82	—0'80	—0'22	—0'21	—0'37	—6'95	—12'68	—3'21	+0'91	+5'90	—0'29	—0'38	—19'12
	Ramnagar .	—0'78	—0'50	—0'20	+0'02	—0'17	—4'08	—10'49	—0'79	+0'34	+4'73	—0'30	—0'49	—12'71
	S i h a w a l (Bardi).	—0'62	—0'40	—0'60	—0'08	—0'34	—3'59	—8'03	—0'63	+2'03	+6'17	—0'48	—0'49	—7'06
	Tyonthar .	—0'90	—0'55	—0'31	—0'08	—0'38	—3'17	—10'70	—0'20	+1'99	+13'12	—0'17	—0'49	—1'84
	Sohagpur .	—0'79	—0'50	—0'45	—0'39	+0'88	—5'72	—7'17	—0'45	+0'68	+4'94	—0'76	—0'46	—10'19
	Chakrata .	+0'91	—3'06	+0'87	—1'08	+0'43	—5'96	+3'58	+10'33	+2'97	—0'60	—0'34	+1'14	+9'19
	Mussooree .	+0'44	—2'47	—0'48	—1'46	—0'02	—8'02	—5'05	+2'89	+1'84	—0'12	—0'42	+0'32	—12'55
	Srinagar .	+0'21	—2'66	+0'61	—0'84	—0'39	—3'98	—0'67	—2'13	—0'05	—0'72	—0'25	+0'14	—10'73
	Pauri .	+0'29	—2'68	+1'13	—1'21	+1'52	—4'17	—6'88	—1'48	—1'81	—0'62	—0'30	+0'16	—16'05
	Ranikhet .	—0'41	—1'77	—0'07	—0'83	—1'31	—4'33	—4'52	—0'80	—1'51	+1'08	—0'28	—0'44	—15'19
	Almora .	+0'47	—1'32	+0'25	—0'54	—0'60	—1'43	—3'97	+0'65	—0'48	+2'19	—0'21	—0'25	—5'24
UNITED PROVINCES.	Pithoragarh .	—0'01	—1'77	+0'63	—1'15	—1'12	—0'88	—8'53	—2'53	—1'67	+1'96	—0'17	+0'01	—15'23
	Naini Tal .	—0'24	—2'45	—1'31	—0'22	—0'65	—12'75	—9'43	—1'81	+0'39	+3'05	—0'25	—1'03	—26'70
	Dehra Dun .	—0'60	—1'93	—0'69	—0'65	—1'06	—8'11	—9'78	—1'07	+5'09	—0'04	—0'21	+0'30	—18'75
	Saharanpur .	—0'47	—1'30	—0'73	—0'27	—0'73	—3'27	—3'96	+0'07	+3'81	—0'27	—0'22	—0'35	—7'69
	Roorkee .	—0'22	—1'42	—0'55	—0'31	—0'99	—4'40	+1'58	+0'93	+1'59	—0'56	—0'24	—0'35	—4'92
	Muzaffarnagar .	—0'20	—0'79	—0'76	—0'38	—0'76	—3'03	—2'24	+1'62	+1'94	—0'34	—0'11	—0'42	—5'47
	Bijnor .	+0'07	—1'13	—0'81	—0'46	—0'55	—4'54	+2'09	—0'28	+5'96	—0'23	—0'13	—0'33	—0'34
	Meerut .	—0'44	—0'81	—0'49	—0'34	+0'33	—3'60	—1'59	—0'44	+3'61	+0'18	—0'08	—0'40	—4'07
	Moradabad .	+0'04	—1'11	—0'53	—0'30	—0'29	—4'01	—7'38	+2'32	—2'25	+4'32	—0'12	—0'40	—9'71
	Rudarpur .	+0'24	—1'20	—0'81	—0'23	—0'65	—2'74	—12'06	+7'47	+5'31	+4'35	—0'08	—0'31	—0'71
	Pilibhit .	—0'10	—0'79	—0'62	—0'32	+0'49	—2'80	—11'00	+15'05	+0'72	+7'46	—0'09	—0'31	+7'67
	Bulandshahr .	—0'38	—0'90	—0'42	—0'27	—0'38	—1'99	—5'50	—0'55	+2'71	+1'36	—0'07	—0'44	—6'83
	Bareilly .	+0'48	—0'80	—0'61	—0'25	—0'67	—4'67	—8'48	+0'09	+5'97	+9'71	—0'10	—0'31	+0'36
	Budaun .	—0'51	—0'59	—0'41	—0'16	—0'40	—1'66	—7'57	+1'40	—0'69	+13'13	—0'10	—0'52	+2'12
	Shahjahanpur .	—0'09	—0'74	—0'43	—0'16	+0'14	—3'01	—9'64	+1'03	—2'29	+22'11	—0'13	—0'30	+6'49
	Aligarh .	—0'49	—0'49	—0'36	—0'17	+0'50	—1'02	—7'12	+0'11	—2'12	+5'76	—0'04	—0'35	—5'79
	Muttra .	+0'04	—0'35	—0'23	—0'17	—0'19	—2'01	—5'97	—0'85	—3'47	+3'35	—0'06	—0'27	—10'18
	Agra .	—0'32	—0'23	+0'18	—0'16	—0'56	—2'73	—5'60	+3'16	—3'09	+7'16	—0'05	—0'29	—2'54

TABLE XXVI.—*Departure of the monthly and total rainfall (in inches) in 1903 from the averages of past years.—contd.*

PRO- VINCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
UNITED PROVINCES— <i>contd.</i>	Etah . .	—0'19	—0'35	—0'18	—0'09	—0'34	—1'55	—5'34	+2'66	—1'68	+8'90	—0'05	—0'29	+1'50
	Mainpuri .	—0'35	—0'37	—0'02	—0'13	—0'38	—2'43	—5'82	+1'68	—2'21	+14'53	—0'10	—0'37	+4'03
	Farrukhabad .	—0'22	—0'39	—0'24	—0'09	—0'49	—0'93	—6'30	+6'77	+0'63	+15'69	—0'09	—0'33	+13'51
	Etawah .	—0'33	—0'29	—0'37	—0'12	—0'20	—1'22	—3'41	—1'77	—2'39	+8'78	—0'08	—0'31	—1'71
	Cawnpore .	—0'34	—0'44	—0'23	—0'12	—0'43	—1'62	—8'71	+0'90	+0'89	+9'92	—0'13	—0'24	—0'75
	Fatehpur .	—0'70	—0'45	—0'26	—0'14	—0'35	—3'03	—6'72	+2'28	+1'33	+7'59	—0'17	—0'28	—0'90
	Jalaun (Orai) .	—0'42	—0'27	—0'18	—0'07	—0'17	—3'07	—6'16	—3'82	—0'22	+6'28	—0'05	—0'26	—8'41
	Hamirpur .	—0'42	—0'37	—0'20	—0'09	—0'14	—4'13	—7'30	+7'02	+1'99	+5'77	—0'17	—0'34	+1'62
	Banda .	—0'72	—0'36	—0'26	—0'10	—0'30	—3'40	—5'53	+4'74	+0'59	+10'73	—0'36	—0'28	+4'75
	Allahabad .	—0'82	—0'42	—0'38	—0'08	—0'25	—4'18	—8'06	+7'15	—0'20	+15'33	—0'25	—0'23	+7'61
	Basti .	—0'39	—0'46	—0'31	—0'24	+0'46	—4'10	—3'60	+5'77	+6'84	+11'93	—0'05	—0'11	+15'74
	Gorakhpur .	—0'52	—0'55	—0'38	—0'38	—0'69	—1'60	—3'27	+8'71	+4'66	+12'31	—0'17	—0'13	+17'99
	Azamgarh .	—0'59	—0'38	—0'27	—0'15	—0'64	—2'98	—6'08	+3'28	+3'88	+13'62	—0'10	—0'14	+9'45
	Jaunpur .	—0'75	—0'43	—0'25	—0'12	—0'65	—3'46	—6'20	—2'05	+3'56	+14'33	—0'14	—0'14	+3'70
	Benares .	—0'46	—0'51	—0'30	—0'06	—0'39	—3'95	—9'75	—0'73	+13'65	+11'80	—0'17	—0'17	+8'96
	Mirzapur .	—0'59	—0'64	—0'48	+0'14	—0'51	—2'17	—11'10	—0'35	+2'07	+9'44	—0'27	—0'18	—4'64
	Ballia .	—0'65	—0'59	—0'12	—0'26	—0'84	+1'04	—8'63	+0'31	—0'67	+4'24	—0'17	—0'12	—6'46
	Dudhi .	—0'42	—0'31	—0'37	—0'14	—0'47	—3'46	—8'23	—3'18	+1'32	+3'55	—0'26	—0'30	—12'27
	Robertsganj .	—0'56	—0'48	—0'39	+0'36	—0'64	—3'26	—8'64	+1'31	+8'68	+3'20	—0'37	—0'27	—1'06
	Jhansi .	—0'51	—0'26	—0'32	—0'12	—0'01	—3'80	—6'53	—0'12	+2'13	+8'18	—0'07	—0'27	—1'70
OUDH.	Lalitpur .	—0'50	—0'29	—0'31	—0'12	+0'04	—4'91	—6'88	+1'31	—0'29	+7'32	—0'17	—0'36	—5'16
	Kheri .	—0'20	—0'77	—0'47	—0'21	+0'05	—3'05	—7'03	—1'28	—3'28	+7'84	—0'16	—0'38	—8'94
	Sitapur .	+0'05	—0'52	—0'44	—0'27	—0'81	—4'44	—7'27	+4'47	—0'58	+9'30	—0'15	—0'32	—0'98
	Bahraich .	—0'09	—0'76	—0'38	—0'35	+1'61	+1'48	—7'66	+11'35	+2'50	+10'07	—0'12	—0'39	+17'26
	Gonda .	+0'32	—0'61	—0'33	—0'24	+0'89	—4'45	—6'52	+11'03	+12'21	+13'37	—0'10	—0'28	+25'29
	Hardoi .	+0'07	—0'37	—0'58	—0'17	—0'45	—2'47	—7'54	+7'42	—2'67	+17'26	—0'12	—0'36	+10'02
	Nawabganj (Bara Banki).	—0'16	—0'37	—0'36	—0'15	—0'50	—2'91	—8'20	+8'61	+1'02	+18'66	—0'07	—0'46	—15'11
	Lucknow .	—0'32	—0'44	—0'29	—0'11	—0'88	—4'16	—2'15	+4'82	+0'81	+8'65	—0'08	—0'44	+5'41
	Unao .	—0'63	—0'31	—0'21	—0'10	—0'60	—2'63	—9'70	+1'41	—0'05	+9'87	—0'09	—0'37	—3'41
	Fyzabad .	—0'56	—0'42	—0'45	—0'17	+0'16	—2'31	—5'96	+14'92	+13'66	+13'76	—0'08	—0'23	+32'23
	Sultanpur .	—0'72	—0'41	—0'22	—0'21	—0'61	—4'27	—10'13	+7'94	+4'09	+18'63	—0'15	—0'22	+13'72
	Rae Bareilly .	—0'68	—0'13	—0'21	—0'09	—0'20	—5'11	—5'69	+4'05	—2'46	+7'04	—0'12	—0'23	—4'13
	Partabgarh .	—0'85	—0'42	—0'22	—0'04	—0'45	—4'17	—5'90	+17'70	—1'60	+12'04	—0'21	—0'29	+15'59

TABLE XXVI.—*Departure of the monthly and total rainfall (in inches) in 1903 from the averages of past years—contd.*

PROV- INCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
BENGAL.	Motihari .	-0'49	-0'31	-0'44	-0'67	-1'97	+2'67	-6'98	+8'66	-6'39	+4'38	-0'12	-0'13	-1'79
	Darbhangha .	-0'41	-0'42	-0'32	-0'69	-2'32	+5'42	-7'11	-2'80	-0'81	+2'76	-0'07	-0'11	-6'88
	Siwan .	-0'73	-0'57	-0'14	-0'27	-1'07	-4'80	-9'86	+5'24	-5'83	+4'50	-0'17	-0'11	-13'81
	Buxar .	-0'76	-0'44	-0'18	-0'05	-0'33	-0'60	-8'55	+3'09	+2'23	+5'17	-0'38	-0'19	-0'99
	Chapra .	-0'66	-0'49	-0'26	-0'32	+0'90	-4'15	-9'82	+2'18	-3'10	+0'93	-0'25	-0'09	-15'13
	Arrah .	-0'88	-0'61	-0'32	-0'47	-1'01	-4'29	-10'50	+0'90	-2'07	+1'09	-0'21	-0'13	-18'50
	Patna (Banki- pur).	-0'48	-0'53	-0'11	-0'30	-1'53	-5'46	-7'67	-2'23	-3'08	+2'48	-0'20	-0'14	-19'25
	Muzaffarpur .	-0'74	-0'14	-0'43	-0'47	-0'82	+1'80	-9'72	-0'34	-4'85	+1'93	-0'12	-0'07	-13'97
	Barh .	-0'43	+0'52	-0'34	0	-1'93	-1'94	-10'10	-4'19	-5'51	+1'06	-0'18	-0'09	-23'13
	Sasaram .	-0'43	-0'40	-0'27	+0'48	-0'96	-2'03	-9'28	+3'67	+1'70	+6'42	-0'27	-0'23	-1'60
	Gaya .	-0'62	-0'57	-0'41	-0'08	-0'59	-3'81	-7'85	-1'75	+2'68	+5'77	-0'27	-0'17	-7'67
	Jamui .	-0'60	+0'11	-0'26	-0'36	-0'45	-3'86	-11'96	-4'19	-1'22	+3'18	-0'12	-0'07	-19'80
	Madhipura .	-0'13	-0'66	-0'42	-1'07	-3'11	+8'31	-6'90	+4'99	-5'04	-0'15	-0'06	-0'05	-4'29
	Monghyr .	-0'31	-0'60	-0'41	-0'38	-1'73	-1'02	-10'09	-4'13	-1'94	+3'15	-0'20	-0'07	-17'73
	Bhagalpur .	-0'26	-0'55	-0'21	-0'83	-1'18	-1'55	-8'32	-3'11	-3'31	+1'58	-0'16	-0'07	-18'47
	Godda .	-0'30	+0'94	-0'22	-0'50	-2'69	-2'21	-8'09	+0'11	-5'76	+3'68	-0'27	-0'08	-15'39
	Palamau .	+0'03	-0'20	-0'49	-0'21	-0'13	-3'52	-8'09	-6'00	-1'40	+0'56	-0'35	-0'29	-20'04
	Hazaribagh .	-0'06	+0'25	-0'53	+0'67	+0'94	-5'38	-6'22	+0'46	-0'64	+5'37	-0'30	-0'21	-5'65
	Ranchi .	-0'41	-0'81	-0'79	+2'86	+1'41	-3'35	-1'75	-2'73	-1'90	+5'81	-0'31	-0'18	-2'15
	Lohardaga .	-0'13	-0'50	-0'47	+0'26	+0'74	-5'82	-0'86	+5'15	-0'39	+10'70	-0'46	-0'40	+7'82
	Naya Dumka .	-0'41	-0'27	-0'50	+0'80	-0'75	-3'79	-8'10	-0'63	-3'13	+3'40	-0'31	-0'16	-13'85
	Gobindpur .	+0'52	+0'01	+0'56	+1'68	-0'88	-4'81	-5'86	+1'14	-2'83	+5'46	-0'22	-0'16	-5'39
	Purulia .	+0'22	-0'68	-0'59	+0'39	-1'15	-3'16	-7'06	-1'62	-0'13	+9'80	-0'21	-0'18	-4'37
	Sirguja .	-0'18	-1'05	-0'75	-0'30	+2'83	-2'80	-4'11	+2'28	-6'28	+6'10	-0'55	-0'42	-5'23
	Jushpore .	+0'27	-0'24	-1'39	+0'52	+1'76	-5'16	-4'43	+1'05	+4'04	+6'41	-0'41	-0'35	+2'07
	Gangpur .	+1'37	+0'13	-0'64	-0'35	+0'05	-2'83	-7'70	-2'99	+10'51	+7'50	-0'69	-0'40	+3'96
	Chaibassa .	+1'40	-0'83	-0'93	+2'62	-0'50	-0'38	-6'61	-3'48	+0'92	+7'47	-0'35	-0'26	-0'93
	Barreepudda .	+1'45	-0'26	+0'51	+5'34	-0'64	-0'14	+2'15	-2'09	-1'10	+10'09	-0'66	-0'14	+14'51
	Keonjhar .	+2'00	+0'36	-0'43	-0'61	+1'37	-2'51	+4'77	-0'70	+6'31	+8'39	-0'83	-0'28	+17'84
	Jellasore .	+2'89	-0'05	+1'28	+4'96	-3'39	+1'65	-1'35	-2'36	+6'59	+5'38	+0'03	-0'13	+15'50
	Balasore .	+1'58	-0'12	-0'05	-1'45	-4'08	-3'70	+4'04	-3'40	+8'44	+11'91	-0'44	-0'19	+12'54
	Bhadrak .	+0'21	+2'10	+0'73	-1'74	-2'51	-0'68	+2'70	-5'91	-1'20	+7'58	-1'16	-0'31	-0'19
	Talcher .	+0'27	+0'93	-0'70	-0'84	+1'57	-1'97	+0'97	+4'91	-0'42	+2'04	+0'10	-0'18	+7'40

TABLE XXVI.—*Departure of the monthly and total rainfall (in inches) in 1903 from the averages of past years.—contd.*

PROV- INCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
BENGAL—contd.	Narsinghpur.	+0'09	+0'26	+0'41	+0'13	+1'61	-4'13	+2'13	-1'20	+0'15	+6'27	+0'10	-0'33	+6'49
	Angul.	+0'58	+0'52	-0'96	-0'91	-0'84	-3'51	+3'18	+1'78	+1'12	+4'94	-0'77	-0'35	+4'78
	Dhenkanal.	-0'16	+0'62	-1'33	-0'51	-0'19	-4'87	-1'24	+0'13	+1'32	+8'60	+0'87	-0'23	+3'01
	Bispara.	+0'46	+0'98	-0'44	-1'12	+0'22	-4'76	-2'06	-3'95	+3'12	+3'40	+0'28	+0'42	-3'45
	Kunjabangar.	+1'32	+1'28	-0'82	-0'66	-1'52	-2'43	+4'33	+4'21	+8'83	+1'07	+2'95	-0'10	+18'46
	Banki (Char- chika).	+0'47	+0'05	-0'83	-0'60	-0'02	-3'30	+4'59	+1'24	-1'40	+6'14	-0'06	-0'36	+5'92
	Cuttack.	+0'02	+1'01	-1'18	-1'38	+0'54	-3'47	+0'98	+1'08	+3'25	+7'31	-1'03	-0'34	+6'79
	Baramba.	-0'19	+0'58	+1'73	-1'03	-0'14	-5'44	+8'55	-0'32	+4'73	+5'31	+2'17	+0'07	+6'02
	False Point.	+0'93	-0'51	-0'83	-1'62	-2'80	+2'42	-5'62	-1'87	-2'26	+3'49	-2'32	-0'47	-11'46
	Puri.	-0'16	+0'07	-0'62	-0'52	-1'17	-3'35	+2'36	-4'43	-1'87	+1'92	-1'01	-0'33	-9'11
	Darjeeling.	-0'63	-0'50	-1'64	-2'73	+2'18	+0'66	-16'24	+0'91	-8'01	+5'30	+0'24	-0'20	-21'14
	Mongpoo.	-0'74	+0'22	-1'54	-1'44	-1'88	+4'91	-8'96	+7'84	-5'10	+3'05	-0'16	-0'18	-3'98
	Pedong.	-0'89	-0'77	-2'28	-3'50	-3'36	+6'95	-9'87	+4'05	-0'99	+3'61	-0'38	-0'50	-7'93
	Buxa.	-0'45	+0'25	-1'48	-3'66	-12'91	+3'12	+16'46	+41'00	-4'24	+4'63	-0'67	-0'65	+41'40
	Jalpaiguri.	-0'43	+0'28	-1'30	-2'61	-3'56	+3'49	-11'13	+13'18	-0'43	+0'03	-0'14	-0'07	-2'69
	Cooch Behar.	-0'11	-0'30	+0'25	-5'89	-4'27	+7'01	-2'93	+6'16	+7'81	-1'76	-0'14	-0'08	+5'76
	Kishanganj.	+0'02	-0'47	-0'55	-1'83	+0'19	+1'45	-8'67	+15'50	+0'84	+7'34	-0'05	-0'09	+13'68
	Purnea.	+0'17	-0'52	-0'37	-1'36	-1'49	+0'98	-4'68	-1'68	-8'64	+0'23	-0'07	-0'10	-17'53
	Rangpore.	+0'11	-0'40	-0'15	-3'16	-1'56	-0'37	+1'23	-0'14	+0'57	+0'92	-0'24	-0'08	-3'27
	Dinajpore.	-0'23	-0'48	-0'35	-2'24	-3'45	-0'21	-1'29	+0'10	-5'61	+4'48	-0'16	-0'08	-9'52
	Malda.	-0'23	-0'24	-0'71	-1'03	-0'66	+1'63	-7'06	-3'23	-2'08	+0'40	-0'21	-0'25	-13'67
	Bogra.	-0'22	-0'92	+0'70	-3'11	-0'79	+3'20	-6'01	-0'12	-5'58	+1'99	-0'82	-0'09	-11'77
	Rampur Boalia.	-0'04	-0'70	+0'53	-1'19	-1'31	-0'62	-7'57	-0'93	+4'88	+2'17	-0'28	-0'06	-5'12
	Pubna.	-0'24	+0'39	-0'45	-2'57	-1'65	-2'66	-4'89	+5'56	+0'89	+4'00	-0'48	-0'07	-2'17
	Suri.	+0'29	+0'16	+0'66	+0'08	+0'14	-7'06	-6'99	+1'76	+2'50	+2'51	-0'33	-0'12	-6'40
	Bankura.	-0'28	-0'42	-0'42	-0'21	-1'75	-1'37	-8'09	0	-1'97	+5'01	-0'51	-0'13	-10'14
	Burdwan.	-0'16	+0'48	+0'85	-1'12	-1'62	-1'19	-2'51	+2'66	-0'63	+2'83	+0'56	-0'13	+0'02
	Hooghly.	+0'40	+1'10	+0'30	-0'31	-2'55	-3'29	-2'44	-4'41	+0'58	+2'60	-0'42	-0'19	-8'63
	Howrah.	-0'20	-0'73	-0'99	-0'87	-3'32	-0'08	-1'52	-6'27	+6'99	+2'38	-0'13	-0'18	-4'92
	Midnapore.	-0'25	-0'08	-0'05	-1'07	-3'12	-2'41	-2'67	-5'83	+3'28	+3'34	-0'11	-1'21	-9'18
	Tamluk.	+0'45	-0'37	+0'05	-0'72	-2'10	-1'44	-6'91	+0'77	+4'57	+4'07	+0'31	-0'18	-1'50
	Berhampore.	-0'21	-0'40	+0'28	-0'58	-2'54	-0'76	-5'68	-1'88	+1'97	+2'69	-0'40	-0'10	-7'61
	Krishnagar.	+0'12	+0'51	+1'62	-1'86	-2'90	+0'52	-4'51	+1'48	+4'02	+3'84	+1'56	-0'10	+4'30

TABLE XXVI.—Departure of the monthly and total rainfall (in inches) in 1903 from the averages of past years.—contd.

PROV- INCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
BENGAL—contd.	Faridpur .	—0'39	—0'20	—0'03	—3'61	—1'15	—2'22	—5'24	+1'92	+0'32	+0'82	—0'83	—0'08	—11'33
	Jessore .	—0'12	+1'96	—0'20	—3'49	—0'38	+2'62	—7'30	—2'86	+1'58	—1'12	—0'83	—0'15	—10'29
	Basirhat .	+0'68	+0'20	—0'07	—0'86	—1'62	—5'05	—6'46	+2'47	+6'04	+3'03	+0'18	—0'14	—1'60
	Khulna .	+0'45	+0'39	+2'55	—2'60	—3'90	+2'34	—7'95	—2'88	—4'20	+0'46	—0'09	—0'20	—15'63
	Barisal .	—0'13	+0'32	+5'41	—2'85	—4'46	—1'06	—8'39	+5'40	+0'22	+6'14	—0'47	—0'32	—0'19
	Alipore (Obsy.)	—0'08	—0'38	—0'37	+0'17	—4'07	—0'14	—5'96	—2'52	+3'62	+4'15	—0'60	—0'31	—6'69
	Saugor Island	+1'67	+1'21	—0'55	+0'19	—1'93	—0'57	—8'13	—3'84	+0'64	+0'67	—1'12	—0'22	—11'98
	Mymensingh .	+0'04	—0'84	+0'87	—4'46	—0'14	+16'13	+0'94	+9'31	—1'94	+3'62	+0'31	—0'09	+23'75
	Kishorganj .	—0'22	+0'11	+0'93	—2'57	—3'55	+13'05	—2'50	+6'23	—4'23	+0'26	+1'03	—0'22	+8'32
	Atia (Tangail)	—0'37	+0'33	+0'51	—3'51	—3'41	+4'07	—5'37	—1'34	—2'40	+3'52	—0'47	—0'08	—8'52
	Dacca .	—0'31	+1'97	—0'50	—5'17	—4'58	+3'12	—6'87	—0'06	+5'70	—0'57	—0'38	—0'17	—7'82
	Comilla .	—0'48	+0'60	+0'65	—5'36	—1'61	+11'38	—8'78	—0'46	—3'22	—2'55	+3'33	—0'22	—6'72
	Agartalla .	—0'57	—1'48	+1'57	—5'22	—6'44	+2'73	—9'69	+2'67	—5'57	—2'74	+1'56	—0'35	—23'53
	Noakhali .	+0'80	+0'92	+0'22	—4'08	—7'49	+4'81	—14'52	—2'01	+6'28	—1'54	+1'66	—0'35	—15'30
	Rangamatia Hill.	—0'18	+0'79	+0'74	—3'62	—2'61	+4'76	—7'24	+0'35	—2'92	+1'21	+1'73	—0'48	—7'47
	Chittagong .	+2'09	+3'82	+2'80	—3'16	—5'71	—3'25	—10'07	—0'88	+1'25	+0'14	+3'78	—0'58	—9'77
	Cox's Bazar .	—0'48	+1'33	—0'97	—2'31	—7'24	—14'01	—17'01	+17'19	+4'97	—1'20	+3'03	—0'29	—16'99
	Sylhet .	+0'78	—1'42	+1'86	—3'10	—7'10	+0'89	—4'62	+2'63	+2'88	—2'81	+6'06	—0'27	—4'22
	Silchar .	+2'00	—1'82	+2'28	—2'59	—8'43	+0'14	—6'57	+4'48	+10'66	+2'55	+2'21	—0'54	+4'37
	Cherra Poonjee	—0'73	—1'06	+1'03	—6'28	—30'20	+4'65	—15'30	+33'47	—39'77	—6'13	+9'63	—0'23	—50'92
ASSAM.	Tura .	—0'40	—0'17	+2'58	—0'41	—4'79	+24'94	—11'96	+11'18	+0'92	+1'70	+2'74	—0'11	+20'22
	Shillong .	—0'46	+0'39	+0'57	—2'94	—3'16	+7'05	+6'39	+6'85	—5'76	0	+0'91	—0'25	+10'19
	Dhubri .	—0'03	—0'35	—0'53	—5'01	—3'21	+4'83	+0'39	+4'38	+0'08	—0'04	—0'10	—0'14	+0'27
	Goalpara .	—0'26	—0'01	+0'22	—6'54	—7'58	—2'53	—0'47	—1'06	—4'34	—0'03	—0'11	—0'21	—22'92
	Kulsi .	—0'32	—0'24	+1'03	—5'07	—1'75	+8'13	—6'00	+4'30	+4'77	+1'01	—0'13	—0'20	+5'53
	Gauhati .	—0'30	+0'49	+1'30	—3'17	—1'44	+4'73	—6'93	+3'38	+1'44	+1'47	—0'03	—0'24	+0'70
	Nowgong .	—0'66	—0'24	+2'14	+0'41	—4'89	+5'12	—2'48	+3'34	+5'79	+0'55	+0'21	—0'28	+9'01
	Tezpur .	—0'15	+0'29	+0'69	—1'78	—4'45	+3'73	—4'88	—0'31	—1'62	+1'55	—0'10	—0'40	—7'43
	Charduer .	—0'72	—0'17	—1'09	—3'02	—2'97	—7'21	+8'53	+6'56	+3'04	—1'93	+1'01	—0'81	+1'22
	Sibsagar .	—0'24	—0'09	+0'13	+2'65	—1'48	+16'00	—1'79	+10'33	—3'17	+2'45	+1'41	—0'38	+25'82
	Dibrugarh .	+0'79	—0'92	—0'49	—2'27	—5'82	+1'98	—6'02	+6'86	—1'85	+0'46	+0'77	—0'76	—7'27
	Kohima .	—0'58	—0'85	+1'58	—1'24	—1'41	0	—7'75	+4'14	+5'51	+2'20	+0'67	—0'43	+1'84

TABLE XXVI.—*Departure of the monthly and total rainfall (in inches) in 1903 from the averages of past years.—contd.*

PROV- INCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
CENTRAL PROVINCES.	Saugor .	-0'39	-0'51	-0'22	-0'16	+2'21	-5'77	-6'49	-2'78	+9'05	+2'08	-0'33	-0'55	-3'86
	Damoh .	-0'34	-0'57	-0'21	-0'20	+0'99	-4'05	-6'68	+1'46	+1'33	+2'20	-0'31	-0'47	-6'85
	Jubbulpore .	-0'40	-0'49	-0'48	-0'22	+1'83	-5'23	-6'66	+4'77	+1'09	+5'62	-0'37	-0'26	-0'80
	Narsinghpur .	-0'37	-0'41	-0'27	-0'24	+1'82	-1'57	-5'68	+2'82	+1'68	+2'68	-0'25	-0'38	-0'17
	Hoshangabad .	-0'28	-0'21	-0'21	-0'07	+1'47	-5'49	+5'85	+4'04	+6'11	-1'03	-0'39	-0'44	-2'35
	Khandwa .	-0'29	-0'20	-0'09	-0'12	+1'63	-3'23	-1'45	-0'38	+3'79	-1'06	-0'15	-0'37	-1'92
	Badnur (Betul) .	-0'20	-0'32	-0'50	-0'29	+1'11	-3'62	+2'39	+2'83	+1'73	+0'97	-0'39	-0'49	+3'16
	Pachmarhi .	-0'23	-0'42	-0'32	-0'29	+3'61	-8'00	-10'12	+12'92	+5'99	+7'15	-0'41	-0'54	+9'34
	Chhindwara .	-0'45	-0'31	-0'44	-0'34	+2'34	-1'51	-0'32	+0'74	+4'54	+0'20	-0'41	-0'34	+3'70
	Seoni .	-0'28	-0'53	-0'51	-0'55	+1'56	-0'18	+0'87	+4'40	+4'49	+4'22	-0'43	-0'57	+12'49
	Balaghat .	-0'51	+0'32	-0'38	+0'09	+0'76	-6'30	+2'07	-1'42	-1'05	+1'63	-0'49	-0'22	-5'50
	Mandla .	-0'37	-0'32	-0'57	-0'40	+2'17	-6'28	-0'59	+4'43	+0'05	+2'31	-0'28	-0'33	-0'18
	Bilaspur .	-0'50	-0'18	-0'70	-0'60	-0'20	-6'46	-0'15	+1'30	+0'38	+4'04	-0'57	-0'27	-3'91
	Sarangarh .	-0'09	-0'48	-0'69	+0'14	+0'62	-5'27	-0'44	-2'81	+6'84	+2'44	-0'53	-0'13	+0'60
	Raigarh .	-0'22	-0'34	-0'43	+0'08	+1'99	-3'53	+2'83	-3'44	-1'47	+4'67	-0'65	-0'21	-0'72
	Sambalpur .	+1'09	-0'57	-0'89	-0'47	-0'51	-9'15	-4'19	-1'02	+1'21	+5'59	-0'39	-0'25	-9'55
	Raipur .	-0'30	+0'47	-0'57	-0'52	-0'14	-6'39	-2'16	-0'71	+1'71	+1'98	-0'61	-0'20	-7'44
	Dhamtari .	-0'14	+0'23	-0'48	-0'21	0	-7'71	-1'05	+0'77	+1'44	+3'50	-0'36	-0'11	-3'72
	Bhandara .	-0'78	-0'57	-0'58	-0'25	+0'72	-1'32	-0'20	+4'62	+0'04	+1'27	-0'69	-0'35	+1'91
	Nagpur .	-0'57	-0'29	-0'57	-0'40	+1'41	-1'43	+10'00	+4'71	-3'06	+2'18	-0'51	-0'43	+11'04
	Arvi .	+0'14	-0'13	-0'44	+0'03	+0'85	-2'58	+2'90	+6'72	-2'39	+0'82	-0'35	-0'36	+5'21
	Wardha .	-0'21	-0'26	-0'41	-0'07	+0'06	-0'59	-0'68	+8'45	-3'30	+5'90	-0'57	-0'34	+7'98
	Brahmapuri .	-0'39	-0'10	-0'84	-0'44	+0'92	-3'77	+13'85	+1'43	-4'82	+2'59	-0'54	-0'37	+7'52
BERAR.	Chanda .	-0'25	-0'37	-1'20	-0'59	+0'45	+0'25	+5'81	+1'50	+1'49	+2'29	-0'73	-0'28	+8'37
	Sironcha .	+0'03	-0'33	-0'60	-0'36	-0'84	-4'13	+10'35	+12'14	+0'16	+2'50	+0'42	-0'23	+19'11
	Baster (Jagad- alpore). Chikalda .	+0'11	-0'06	-0'81	+0'51	+1'67	-0'41	+4'57	-0'79	-0'04	+6'08	+3'23	+1'01	+15'07
	Ellichpur .	+0'11	-0'23	-0'36	-0'25	+2'23	-4'18	+8'76	-0'78	+1'74	-1'31	-0'56	-0'51	+4'66
	Amraoti .	-0'44	-0'22	-0'34	-0'22	+1'59	-3'13	+7'03	+5'62	-1'34	+1'87	-0'36	-0'44	+9'62
	Akola .	+0'03	-0'18	-0'43	-0'08	+1'37	-3'10	+7'29	-1'10	-2'63	-0'72	-0'44	-0'58	-0'57
	Buldana .	-0'30	-0'22	-0'25	-0'27	+1'14	-2'63	+3'43	+4'12	0	-0'96	-0'48	-0'45	+3'13
	Basim .	-0'06	-0'23	-0'45	-0'27	+1'87	-4'37	+1'92	+2'58	-0'75	+5'70	-0'66	-0'37	+4'91
	Yeotmal .	-0'27	-0'24	-0'50	-0'24	+0'53	-3'57	+3'64	+2'19	-2'19	+1'42	-0'56	-0'38	-0'17
	Wun .	-0'29	+0'37	-0'86	-0'38	+0'83	-2'26	+5'71	+9'34	-1'38	+1'23	-0'74	-0'49	+11'28

TABLE XXVI.—*Departure of the monthly and total rainfall (in inches) in 1903 from the averages of past years.—contd.*

PROV- INCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
BOMBAY.	Dhulia .	+0'07	-0'06	-0'04	-0'07	+ 2'80	- 2'49	+ 3'20	+3'29	+ 2'94	-1'20	-0'62	-0'31	+ 7'51
	Nasik .	+0'01	-0'06	-0'03	-0'14	+ 2'37	- 4'68	- 0'68	-0'19	+ 0'75	-0'59	-0'48	-0'17	- 3'89
	Igatpuri .	-0'14	-0'09	-0'03	-0'07	+ 4'27	-12'67	- 1'75	-8'12	+ 1'39	-0'05	-0'40	-0'18	-17'84
	Malegaon .	+0'19	-0'11	-0'04	-0'19	+ 6'14	- 2'12	+ 1'75	-1'34	- 0'34	-1'18	-0'45	-0'35	+ 1'96
	Ahmednagar .	-0'27	-0'12	-0'15	-0'40	+ 0'60	+ 2'68	+ 7'51	-1'31	- 0'74	+2'10	-0'89	-0'20	+ 8'81
	Poona .	+0'22	-0'05	-0'13	-0'58	+ 0'80	- 2'42	+ 0'52	-0'52	- 3'00	-0'63	-0'85	-0'20	- 6'84
	Lonavla .	-0'06	-0'04	-0'06	-0'23	+ 6'96	-21'18	+ 2'91	-3'09	- 7'65	+2'50	-0'72	-0'15	-20'81
	Satara .	-0'27	-0'10	-0'10	-0'10	+ 0'51	- 3'81	+ 4'52	-3'10	- 1'56	-1'13	-0'53	-0'41	- 6'08
	Mahabaleshvar	-0'31	-0'05	-0'30	-1'26	+13'79	-28'04	+33'67	-7'12	-12'62	+4'07	+0'44	-0'32	+ 1'95
	Sholapur .	+0'95	-0'08	-0'29	-0'63	+ 1'76	+ 2'52	+ 3'51	+2'29	+ 5'04	-0'31	-0'47	+0'29	+14'58
	Kolhapur .	-0'06	-0'09	-0'14	-1'34	+ 0'95	- 4'01	+ 2'68	-2'30	- 0'82	+0'10	-0'28	-0'17	- 5'48
	Belgaum .	-0'06	-0'03	-0'49	-1'49	+ 1'16	- 3'64	+ 6'33	-4'03	- 1'36	-2'76	-0'70	-0'07	- 7'14
	Gokok .	+0'07	-0'01	-0'41	-1'27	- 0'44	- 0'68	+ 0'49	-0'22	- 0'83	+1'73	+0'06	-0'56	- 2'07
	Dharwar .	-0'11	-0'03	-0'33	-1'29	- 0'48	- 1'52	+ 1'73	-1'49	- 0'22	-1'04	-1'07	+0'72	- 5'13
	Hubli .	-0'09	-0'01	-0'32	-1'03	+ 0'03	- 1'64	+ 0'66	-0'87	- 0'12	-1'39	-0'08	+1'22	- 3'64
	Nargund .	-0'17	-0'09	-0'28	-1'60	- 0'76	+ 0'04	- 0'12	+1'06	- 1'91	-2'05	-0'58	+0'24	- 6'22
	Mundargi .	-0'19	0	-0'13	+0'17	+ 0'45	+ 1'67	- 1'24	+1'26	+ 0'21	-0'05	+1'31	+2'11	+ 5'57
	Kalghatgi .	-0'12	0	-0'34	-1'34	+ 1'00	- 0'71	+ 3'72	-1'06	+ 0'88	-0'91	+0'35	+0'09	+ 1'56
	Bijapur .	-0'05	-0'05	-0'26	-0'34	- 0'19	+ 0'44	+ 3'65	+1'20	+ 0'47	+0'22	+1'26	+0'04	+ 6'39
	Honavar .	-0'16	-0'01	-0'10	-0'57	+ 6'26	-15'63	+20'86	+2'31	- 0'32	+0'54	+1'34	-0'12	+14'40
	Karwar .	-0'12	-0'01	-0'04	-0'44	+ 5'77	- 3'67	+17'37	+5'94	- 2'90	-4'14	-0'42	-0'11	+17'23
	Goa .	-0'19	0	-0'02	-0'33	+ 7'19	- 7'53	+ 8'14	+5'12	- 1'07	-2'72	+0'08	-0'08	+ 8'59
	Vengurla .	-0'19	-0'02	-0'05	-0'28	+12'53	+ 2'53	+14'89	+0'07	- 5'56	-3'54	-0'44	-0'07	+19'87
	Ratnagiri .	-0'60	-0'02	-0'05	-0'15	+ 1'63	- 7'97	+ 8'51	+0'97	- 4'27	+3'56	-0'57	-0'06	+ 0'98
	Colaba (Obsy.)	-0'12	-0'02	+0'16	-0'05	+ 7'24	- 1'92	- 0'36	+3'85	- 1'91	+4'15	-0'47	-0'05	+10'50
	Byculla (J. Hospital). Thana .	-0'14	-0'03	+0'34	-0'03	+ 7'26	- 6'26	+ 2'38	+5'94	- 0'96	+3'74	-0'19	-0'04	+12'01
	Metheran .	-0'08	-0'03	-0'01	-0'07	+11'10	-23'87	+12'23	-0'52	- 4'50	+3'49	-0'43	-0'04	- 2'73
	Surat .	-0'03	-0'07	0	-0'01	- 0'07	- 7'51	+ 4'03	+1'20	+ 2'06	-1'45	-0'15	-0'03	- 2'03
	Broach .	-0'04	-0'06	-0'01	0	+ 0'50	- 3'97	+12'53	-3'23	+ 2'68	-1'48	-0'16	-0'04	+ 6'72
	Kaira .	-0'03	-0'15	-0'02	-0'05	- 0'30	- 4'36	- 1'84	-4'06	- 1'20	-0'50	-0'31	-0'05	-12'87
	Bariya .	-0'05	-0'25	0	-0'03	- 0'06	- 5'76	- 1'59	-5'82	+ 2'88	-0'91	- 0'17	-0'11	-11'87
	Godhra .	-0'04	-0'14	-0'01	-0'02	- 0'11	- 5'35	+ 0'63	-2'36	+ 3'01	-0'90	-0'15	-0'09	- 5'53

TABLE XXVI.—*Departure of the monthly and total rainfall (in inches) in 1903 from the averages of past years.—contd.*

PROV- INCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
BOMBAY— <i>contd.</i>	Dohad .	—0'06	—0'20	—0'01	—0'03	—0'12	—1'49	+ 0'54	— 4'74	+3'28	— 0'78	—0'16	—0'14	— 3'91
	Ahmedabad .	—0'02	—0'10	—0'01	—0'03	—0'08	—3'74	+ 4'23	— 2'23	—1'69	— 0'40	—0'19	—0'05	— 4'31
	Idar .	—0'04	—0'13	—0'03	—0'02	+0'01	—4'24	+ 2'09	— 4'19	+1'18	— 0'26	—0'22	—0'07	— 5'92
	Deesa .	—0'12	—0'11	—0'04	—0'05	—0'09	—2'26	+ 3'07	— 4'16	—0'23	— 0'58	—0'14	—0'05	— 4'76
	Wadhwan .	—0'05	—0'07	—0'04	—0'02	—0'20	—2'87	+ 5'70	+ 2'19	—0'05	— 0'55	—0'42	—0'05	+ 3'57
	Palanpur .	—0'10	—0'16	—0'06	—0'07	—0'56	—2'51	+ 3'03	— 2'40	—1'98	— 0'45	—0'10	—0'11	— 5'47
	Rajkot .	—0'05	—0'10	+0'02	—0'01	0	—4'95	— 0'26	+ 1'69	—0'13	— 0'67	—0'33	—0'06	— 4'85
	Songod .	—0'03	—0'08	—0'03	—0'02	—0'11	—2'56	+ 9'96	+ 0'30	—1'53	— 1'36	—0'21	—0'03	+ 4'30
	Jetalsar .	—0'05	—0'09	+0'17	—0'05	+0'31	—5'32	+ 6'41	— 1'68	+5'04	— 1'46	—0'49	—0'04	+ 2'75
	Aurangabad .	—0'14	—0'10	—0'07	+0'11	+1'19	—4'36	+ 2'01	+ 5'34	—2'78	— 1'05	—0'56	—0'60	— 1'01
	(Cantt.)													
	Hingoli .	—0'07	—0'26	—0'26					closed					?
	Parbhani .	—0'06	—0'05	—0'22	—0'35	+1'69	—2'06	+ 3'71	+ 2'46	—3'60	+ 3'09	—0'62	—0'23	+ 3'76
	Nandair .	+0'27	—0'11	—0'46	—0'52	+1'17	+1'68	+ 7'07	+ 6'64	—1'90	+ 2'42	—0'69	+0'09	+15'66
	Bheer .	—0'10	—0'05	—0'21	+0'04	+1'60	—3'66	+ 0'31	+ 3'93	—3'08	+ 2'48	—0'98	—0'54	— 0'26
	Mominabad .	—0'18	—0'15	—0'39					closed					?
	Indur .	+0'65	—0'13	—0'48	—0'39	0	—2'10	+ 4'21	— 0'37	+3'85	+ 4'13	—0'73	+0'08	+ 8'72
HYDERABAD.	Karimnagar .	+0'14	+0'01	—0'37	+0'42	—0'16	+0'58	+ 3'49	— 0'92	—0'24	+ 5'61	—0'65	+0'81	+ 8'72
	Kandi .	+2'05	—0'18	—0'47	—0'79	+1'87	—3'79	+ 6'88	+10'41	—0'36	+10'76	+1'64	—0'05	+27'97
	Shumsabad .	+0'09	—0'17	—0'49	—0'58	—0'09	—0'81	+ 6'77	+ 7'49	+3'51	+12'45	+1'43	—0'15	+29'45
	Sundanully .	+0'08	—0'35	—0'52	—0'42	+1'15	—1'64	+ 6'01	+ 2'16	—0'85	+ 9'64	+0'18	—0'06	+15'38
	Dharaseo .	—0'02	—0'05	—0'29	—0'42	+1'75	—1'53	+ 3'22	+ 1'60	+2'80	+ 3'69	—0'75	+0'05	+10'05
	Bidar .	+0'24	—0'18	—0'50	—0'43	—0'91	—2'02	+ 7'10	+ 1'11	—2'04	+ 6'39	+0'12	+0'58	+ 9'46
	Gulbarga .	+0'31	—0'20	—0'29	—0'56	+0'56	—1'27	+ 7'66	+ 4'89	+8'35	+ 7'01	—0'12	+0'44	+26'78
	Bolaram .	+0'24	—0'19	—0'54	—0'11	+2'73	—2'69	+ 4'77	+ 3'94	+3'98	+ 8'91	+1'37	—0'31	+22'10
	Secunderabad	+0'20	—0'23	—0'72	+0'34	+1'15	—2'24	+ 6'90	+ 4'46	+0'83	+ 9'59	+0'20	—0'09	+20'39
	Hyderabad	+0'26	—0'09	—0'54	—0'33	+1'20	—3'36	+ 8'32	+ 4'38	+1'80	+ 6'36	+1'39	—0'27	+19'12
	(Residency).													
	Zanawada .	+0'40	—0'53	—0'61	—0'74	+1'11	—3'15	+ 2'62	+ 4'21	—4'01	+ 9'96	—0'53	+0'14	+ 8'87
	Bhongir .	+0'38	—0'08	—0'41	—0'52	+0'55	—1'17	+10'14	+ 2'31	—0'48	+ 9'91	+0'85	—0'05	+21'43
	Hanumkonda	+0'86	—0'22	—0'79	+0'48	+1'70	+0'16	+18'86	+ 4'92	+3'43	+ 1'69	—0'65	—0'26	+30'18
	Sirpur-Tandur	—0'04	+0'09	—0'37	—0'32	+0'05	—1'20	+ 5'51	— 3'57	—0'86	+ 2'57	—0'93	—0'53	+ 0'40
	Palmoor .	+0'11	—0'10	—0'41	—0'47	+0'32	—1'19	+ 0'69	+ 7'60	+1'54	+ 7'27	+0'80	+1'01	+17'17
	Raichur .	+0'10	—0'07	—0'30	—0'65	+1'12	—1'23	+ 3'18	+ 0'23	+0'22	+ 7'31	+ 2'48	+1'95	+14'34
	Raichur (Cantt.)	+0'16	—0'15	—0'34	—0'64			closed						?

TABLE XXVI.—Departure of the monthly and total rainfall (in inches) in 1903 from the averages of past years.—contd.

PROV- INCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
MADRAS.	Rambha .	-0'07	-0'33	+0'77	-0'79	-1'15	-0'64	+8'27	+5'17	+5'45	-0'17	+1'31	+1'46	+19'28
	Gopalpur .	-0'23	-0'43	-0'46	-0'16	-1'97	-1'24	+4'67	+1'10	+1'97	-5'79	-1'30	+2'51	+1'33
	Aska .	+0'71	+0'12	-0'53	-1'06	-0'55	-2'06	+1'45	+0'02	+1'94	+1'79	-0'18	+1'40	+3'05
	Vizianagram .	-0'12	-0'29	-0'96	-0'52	-1'19	+1'92	+4'25	+1'49	-2'29	-1'93	-0'46	-0'77	-0'87
	Bimlipatam .	-0'21	-0'10	-0'07	-0'30	-1'87	+3'13	+8'90	+2'33	+0'87	-1'61	+3'80	-0'82	+14'05
	Rayaghadda .	-0'03	+0'27	-0'92	-1'08	+0'72	-1'75	+8'73	-0'42	+0'81	+0'85	-0'03	-0'43	+6'72
	Nourangapur	+0'12	+0'16	-0'45	+0'02	+3'81	-2'73	+1'24	+0'59	-3'93	+7'60	+0'40	+0'18	+7'01
	Gunipore .	-0'02	-0'15	-1'14	-1'89	+2'41	-2'31	+0'80	-1'65	+0'88	-0'86	+1'25	+0'65	-2'03
	Jeypore .	+0'29	-0'28	-0'71	-1'25	+1'49	-1'22	+11'87	-5'94	+3'09	+0'34	+7'89	+0'71	+16'48
	Koraput .	+0'35	+0'17	-0'76	-0'73	+1'48	+2'21	+4'87	-3'87	+0'25	+2'24	+1'37	+0'28	+7'86
	Malkanagiri .	+0'44	-0'12	-0'47	-0'57	+0'17	-3'08	+2'94	+3'13	-2'48	+4'42	+2'11	-0'04	+6'45
	Narsapatnam	-0'09	+1'16	-0'93	-0'62	-1'26	+0'67	-0'28	+0'07	+6'35	-0'08	-0'32	-0'18	+4'49
	Waltair .	-0'32	+0'44	-0'32	-0'72	-2'13	+3'06	+1'16	-2'63	-1'45	-5'98	+0'69	-1'27	-9'47
	Cocanada .	-0'04	-0'33	-0'30	-0'50	+1'93	+0'42	+2'92	+3'03	+2'42	-2'32	+7'42	-0'66	+13'99
	Rajahmundry .	-0'14	-0'25	-0'32	-0'91	+0'30	+1'21	+3'61	+1'46	+1'75	-1'56	+1'38	-0'15	+6'38
	Ellore .	-0'16	-0'17	-0'37	-0'58	-0'06	+2'21	+8'63	+6'78	+2'38	+5'93	+3'49	-0'28	+27'80
	Masulipatam .	-0'12	-0'10	-0'26	-0'40	+0'42	+1'77	+6'91	+3'73	+3'12	+0'45	+7'29	+1'06	+23'87
	Guntur .	-0'24	-0'19	-0'46	-0'60	+2'12	+2'68	+1'11	+8'03	+3'30	+0'39	+4'29	+0'52	+20'95
	Vinukonda .	-0'19	-0'09	-0'25	-0'22	+0'52	+0'35	+1'59	+2'57	+0'23	-3'13	+8'18	+0'01	+8'57
	Ongole .	-0'02	-0'09	-0'21	-0'43	+4'36	+1'16	+2'88	+4'49	-0'57	-0'47	+21'26	-0'78	+31'58
	Nellore .	+2'15	-0'09	-0'18	-0'26	+3'75	+2'17	-0'83	+0'04	-0'26	-5'82	+19'80	+5'35	+25'91
	Udayagiri .	+3'09	-0'21	-0'44	-0'78	+1'34	+0'93	+0'94	+1'33	+4'13	-3'95	+9'73	-0'33	+15'78
	Tada .	+3'74	-0'48	-0'18	-0'27	+5'01	-1'40	+1'95	+3'10	+0'59	-6'25	+3'64	+3'39	+12'84
	Kurnool .	-0'05	-0'03	-0'43	-0'84	-0'95	-1'51	+2'19	+3'30	-0'18	+1'22	+3'18	+0'02	+5'92
	Nandayal .	-0'07	-0'04	-0'16	-0'43	-0'17	-3'00	+8'42	-1'01	+5'90	-0'37	+1'31	+0'07	+10'45
	Bellary .	-0'10	-0'03	-0'42	-0'83	-0'44	+1'00	+1'39	+0'23	+0'48	+1'94	+7'56	-0'02	+10'76
	Gooty .	-0'03	-0'05	-0'08	+1'04	-1'44	-1'23	+3'05	+0'42	+4'40	+0'25	+2'77	-0'11	+8'99
	Adoni .	-0'04	0	-0'26	-0'09	+2'04	-1'97	+3'23	+0'13	+3'60	+1'10	+4'11	+0'18	+12'03
	Dharmavaram	-0'01	-0'10	-0'16	-0'50	+1'22	+0'36	+1'62	-0'86	+3'48	-1'74	+8'75	+0'02	+12'08
	Cuddapah .	+0'76	-0'04	-0'17	-0'41	+1'20	-0'20	+4'33	+3'48	+3'11	-2'09	+8'64	+0'37	+18'58
	Madanapalle	+0'33	-0'13	-0'30	-0'97	+6'25	+5'70	-1'08	-0'23	+6'32	-1'90	+13'48	+2'62	+30'09
	Chittoor .	+1'64	-0'21	-0'32	-0'67	+1'78	+3'86	+2'34	-1'42	+7'85	-0'26	+11'29	+6'51	+32'39
	Vellore .	+1'15	-0'33	-0'19	-0'71	-1'02	+1'57	-0'97	-0'99	+8'12	-1'71	+12'93	+10'53	+28'38

TABLE XXVI.—Departure of the monthly and total rainfall (in inches) in 1903, from the averages of past years.—contd.

PROV- INCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
MADRAS—contd.	Chandragiri .	+1'48	—0'22	—0'21	—0'33	+4'00	+1'05	+0'41	+0'36	+1'96	—3'90	+14'54	+2'19	+21'33
	Arcot .	+1'43	—0'44	—0'36	—0'68	+4'46	—0'97	—0'94	+0'53	+4'56	—1'90	+8'80	+10'63	+25'12
	Madras .	+3'70	+1'89	—0'37	—0'65	+3'36	—0'60	0	+1'78	+4'82	—2'09	+4'44	+13'30	+29'58
	Palmaner .	+1'39	—0'20	—0'38	—0'78	+1'06	+4'22	+1'54	+3'43	+3'12	—1'28	+7'89	+2'49	+22'50
	Saidapet .	+2'21	+0'64	—0'26	—0'55	+3'68	—0'33	—0'04	+2'88	+5'21	—1'24	+5'07	+14'76	+32'03
	Chingleput .	+1'34	+0'02	—0'13	—0'44	+6'64	—1'61	—0'13	+0'79	+2'33	—2'95	+5'02	+16'00	+26'88
	Conjeeveram .	+1'11	+0'14	—0'11	—0'70	+5'33	—1'35	—0'57	+0'49	+3'40	—1'13	+9'47	+19'37	+35'45
	Tindivanam .	+1'06	+0'25	—0'25	—0'85	+3'71	—0'35	+0'15	—2'38	+7'49	—0'34	+3'05	+7'57	+13'11
	Cuddalore .	+0'35	+0'05	—0'34	—0'91	+2'31	—0'61	—0'24	—0'74	+1'66	—3'52	—9'02	+3'62	—7'39
	Vriddhachalam. Udayarpalaiyam.	+0'36	+0'01	—0'27	—0'80	+2'08	—0'83	+0'86	—3'97	+5'19	—3'97	—1'46	+3'44	+0'64
	Salem .	—0'33	—0'32	—0'31	—0'36	+2'40	+1'41	+0'18	—0'07	+3'12	—3'30	—1'55	+7'31	+8'18
	Atur .	—0'24	—0'23	—0'80	—1'61	+3'44	+4'30	—2'06	+4'01	+3'30	+0'38	+4'75	+0'85	+16'05
	Shevaroy Hills	+0'11	—0'32	—0'70	—1'47	+5'78	+1'24	—0'50	—0'73	+5'70	—5'46	+6'23	+1'42	+11'30
	Kumbakonam	—0'38	+0'12	—0'76	—2'48	+6'76	+1'67	—0'16	+1'19	+6'59	—2'79	+6'59	+2'35	+18'70
	Tirupatur .	+0'02	—0'45	—0'51	—0'73	+2'30	+0'18	+0'56	—2'54	+10'93	—6'60	—2'14	+7'58	+8'60
	Hosur .	+0'66	—0'26	—0'44	—0'76	—2'56	—2'25	—2'53	—2'58	+3'48	—2'59	+1'53	+12'10	+3'80
	Tranquebar .	+0'27	—0'31	—0'43	—1'48	+3'71	+2'35	+2'30	+1'10	+7'57	+1'31	+7'16	+0'52	+24'07
	Negapatam .	+0'97	—0'22	—0'11	—0'47	+2'65	+0'05	—1'82	+0'64	+7'12	—5'04	—8'62	+8'59	+3'74
	Tanjore .	+1'09	—0'72	—0'32	—0'64	+3'20	+0'02	—0'24	—0'41	+11'74	—7'70	—3'59	+7'10	+9'53
	Patukota .	+1'09	—0'37	—0'42	—1'13	—0'34	+0'87	+0'97	+0'52	+9'33	—0'68	—3'58	+10'30	+16'56
	Trichinopoly .	+0'03	—0'54	—0'53	—1'29	+0'69	+1'96	+0'12	+1'55	+5'37	—4'82	—1'08	+15'47	+16'93
	Karur .	—0'17	—0'46	—0'57	—1'51	+4'40	—0'12	—1'17	+0'13	+3'91	—5'43	+2'31	+3'44	+4'76
	Coimbatore .	+0'23	—0'17	—0'30	—1'88	+0'12	+1'14	—0'75	+1'53	+2'43	—3'03	+4'44	+1'55	+5'31
	Kollegal .	—0'35	—0'31	—0'53	—1'03	+1'23	—0'31	+1'40	+0'20	+1'79	+0'27	—0'71	—0'21	+1'44
	Dindigul .	—0'15	—0'12	—0'82	—1'88	+4'57	+0'43	+0'69	—1'21	+6'41	+1'09	+10'72	+0'22	+19'95
	Madura (Obsy.) Vattanam .	+0'18	—0'43	—0'51	—1'23	+0'81	+1'00	+0'26	+2'12	+3'37	—4'79	—0'60	+2'37	+2'55
	Periyakulam .	+0'39	—0'47	—0'63	—1'41	+1'54	—0'18	—0'54	—1'24	+4'85	—3'06	+1'88	+5'24	+6'37
	Tinnevely .	+0'06	—0'26	—0'81	—2'37	—0'89	—0'55	—0'87	+1'80	+1'09	—5'31	—0'02	+5'47	—8'66
	Tuticorin .	+0'43	+0'17	—0'12	—0'51	+0'12	—0'64	—0'38	—0'59	—0'21	—3'67	—1'39	+3'00	—3'79
	Satur .	+0'44	—0'37	—1'43	+0'36	—0'32	—0'43	—0'11	—0'35	+0'34	—2'86	—5'57	+1'58	—8'72
	Cochin .	—0'62	+1'46	—0'86	—1'91	+0'99	—0'21	—0'03	—0'12	+0'09	—1'87	—6'39	+2'94	—6'53
	Palghat .	+0'55	—0'38	—0'97	—0'24	+4'09	—0'35	—0'52	+1'94	+6'09	—2'64	+1'86	+4'58	+14'01
		—0'80	+1'88	—1'19	—3'72	+3'73	—1'45	+7'16	+1'75	+9'65	+0'15	+5'31	+1'53	+24'00
		—0'06	—0'07	—0'75	—2'47	+3'81	—6'01	+9'63	+1'13	+1'41	+2'49	+3'03	+1'36	+13'54

TABLE XXVI.—*Departure of the monthly and total rainfall (in inches) in 1903 from the averages of past years—contd.*

PROV- INCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
MADRAS— <i>concd.</i>	Wellington .	—0'38	—0'83	—2'10	—1'29	+0'70	—0'09	+4'27	+1'47	+8'19	—6'60	+0'68	—0'79	+3'23
	Manantoddy .	—0'20	—0'29	—1'13	+2'23	+0'59	—12'19	+32'47	—0'45	—1'87	+4'08	+0'77	+0'44	+24'45
	Calicut .	—0'17	—0'16	—0'79	—3'33	—2'73	—7'83	+10'67	+2'28	+2'09	+1'48	+1'36	+0'17	+3'04
	Tellicherry .	—0'27	—0'15	—0'39	—3'42	+0'78	—13'48	+19'35	—3'12	+1'84	+0'10	+1'44	—0'07	+2'61
	Cannanore .	—0'32	—0'22	—0'21	—2'64	+4'69	—10'29	+21'32	—3'97	+1'21	—0'30	+1'83	+0'78	+11'88
	Mangalore .	—0'13	—0'07	—0'11	—2'06	+0'94	—10'80	+12'88	—1'01	+4'20	+1'95	+1'04	—0'42	+6'41
MYSORE AND COORG.	Bangalore .	—0'06	—0'22	—0'72	—1'13	—2'02	+1'17	—3'03	+1'47	+11'60	0	+6'59	+0'77	+14'42
	Mysore .	—0'07	—0'17	—0'64	—1'66	+3'57	+6'77	+0'39	+1'67	+4'19	+5'47	+6'80	+0'47	+26'79
	Shimoga .	—0'06	—0'11	—0'34	—1'74	—0'84	—0'48	+4'60	+0'38	—0'79	—0'76	+0'38	+1'82	+2'06
	Mercara .	—0'18	—0'09	—0'92	—1'82	+1'55	—14'65	+17'52	—3'19	—2'69	+7'37	+4'36	+3'26	+10'52
	Kolar .	—0'07	—0'04	—0'50	—1'32	+0'33	—0'29	+1'76	+2'28	+2'41	+2'30	+9'56	—0'26	+16'16
	Tumkur .	—0'14	—0'19	—0'33	—1'27	—0'39	+0'22	—0'76	+0'93	+7'81	+7'49	+6'33	—0'36	+19'34
	Chitaldroog .	—0'16	—0'03	—0'25	—1'47	+2'25	+1'24	+0'45	+2'58	+3'26	+4'92	+0'56	+0'20	+13'55
	Chikmagalur .	—0'20	—0'20	—0'63	—1'44	+4'62	—0'47	+6'92	—1'15	+1'82	—5'41	+1'50	+0'89	+6'18
	Hassan .	—0'61	—0'09	—0'44	—0'56	+3'95	+5'56	+5'52	+0'01	+4'62	—3'26	+6'87	+1'09	+22'66
	Trincomalee .	—1'54	+2'55	—1'41	—1'53	+3'38	+1'87	—0'53	—2'94	+6'31	+1'63	—7'15	—4'23	—3'59
CEYLON.	Colombo .	+0'92	+2'06	—2'22	—3'81	+8'66	—2'93	+0'56	+3'73	+3'08	—3'19	—11'61	—4'15	—8'90
	Ratnapura .	+4'31	+3'95	—2'22	—1'86	+3'25	+0'98	+3'79	—0'47	+11'00	+1'73	—7'60	—0'74	+16'12
	Puttalam .	+0'12	P	—2'80	—0'32	+4'43	—0'14	+0'60	+1'52	+1'46	+7'08	—9'43	+4'57	?
	Anuradhapur .	—1'11	+2'97	—2'70	—5'16	+5'61	—1'41	—0'83	+2'02	+5'21	+3'65	—6'48	+1'84	+3'61
	Mannar .	—2'26	+1'30	—1'50	—0'44	+6'63	—0'27	+0'02	—0'32	+6'58	—3'67	—2'22	+0'06	+3'91
	Jaffna .	—0'34	+1'63	—0'88	+0'50	+3'20	+0'24	+3'43	+0'83	+11'83	—7'56	—0'80	+12'24	+24'32
	Batticaloa .	—2'25	+0'53	—3'08	—1'40	+2'25	—0'53	+0'51	—0'53	+8'45	+0'07	—4'20	+3'10	+2'92
	Hambantota .	+1'65	+3'18	—1'51	+0'98	+2'59	+0'27	+4'01	+0'01	—0'37	—1'66	—2'93	—2'33	+3'89
	Galle .	—1'38	—2'76	—4'17	—3'45	+12'35	—0'10	+3'65	+8'14	—2'21	—0'99	—8'07	+0'05	+1'06
	Kandy .	—1'04	—0'90	—3'11	—3'80	+2'23	—3'01	+0'79	—3'13	+1'61	+1'58	—6'92	—2'76	—18'46
	Nuwara Eliya .	+0'50	+0'58	—3'16	—0'06	—0'40	—6'73	+4'67	—2'57	+0'83	—0'33	—5'99	—3'81	—16'47
	Hakgala .	+4'69	+7'53	—4'74	—0'32	+2'42	—3'66	+3'64	—0'23	+0'94	—0'94	—7'98	—3'56	—2'21
	Badulla .	—2'17	+4'23	—4'26	—5'19	—1'47	—2'06	+0'31	+1'25	+1'43	+2'35	—7'67	—5'19	—18'44
	Akyab .	—0'12	—0'09	—0'53	—0'53	—2'41	—3'69	—5'66	+36'40	+7'69	+2'24	+6'14	—0'44	+39'00
BURMA.	Kyaukpyu .	—0'11	+0'34	—0'25	—0'95	+1'85	—1'33	—17'08	+3'98	+6'78	+3'43	+4'34	—0'45	+0'55
	Sandoway .	—0'08	—0'07	—0'10	—1'07	+1'94	—15'84	—23'83	+3'83	—7'51	+2'92	+1'12	+0'10	—38'59
	Rangoon .	—0'11	—0'23	—0'16	—1'74	—7'62	+2'75	—4'55	+2'62	—1'60	+3'46	—2'45	—0'07	—9'70
	Bassein .	—0'17	—0'20	—0'05	—1'36	—1'63	—3'62	+0'88	+0'76	—5'48	+3'90	+1'26	—0'10	—5'81

TABLE XXVI.—Departure of the monthly and total rainfall (in inches) in 1903 from the averages of past years—continued.

PROV- INCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
BURMA— <i>concl.</i>	Diamond Is- land.	-0'24	-0'07	-0'05	-1'38	+2'93	-3'33	-5'14	+7'49	+0'08	+7'17	-1'68	-0'68	+5'10
	Henzada .	-0'07	-0'18	-0'04	-0'87	-1'37	+2'00	+3'48	+8'35	-0'28	+5'17	-0'05	-0'06	+16'08
	Myanaung .	-0'05	-0'02	-0'01	-0'95	-1'13	+2'89	-3'10	-2'85	-3'76	+1'09	+1'42	+1'83	-4'65
	Prome .	-0'02	-0'01	-0'02	-0'47	+1'91	+2'00	+0'77	-2'26	+0'21	+0'90	+0'11	-0'07	+3'05
	Thayetmyo .	-0'02	-0'04	-0'06	-0'81	+0'84	-0'04	+1'52	-3'56	-2'54	+2'29	-0'83	-0'11	-3'36
	Mandalay .	-0'06	-0'08	-0'05	-1'09	+0'33	-2'72	-2'48	+0'30	-0'27	+4'64	-0'11	-0'28	-1'87
	Shwebo .	-0'08	-0'07	-0'24	-0'47	-3'28	-0'91	-0'81	-4'25	-0'33	-0'94	-0'24	-0'15	-11'77
	Yeu .	-0'08	-0'03	-0'18	-0'94	-0'78	+1'35	-2'23	-4'06	+0'68	+3'88	+0'77	-0'24	-1'86
	Minbu .	-0'04	-0'01	-0'02	-0'45	-1'55	+4'07	-1'53	-2'00	-1'50	+1'79	+2'18	-0'32	+0'62
	Pyinmana .	-0'06	-0'06	-0'03	-1'76	+11'99	+3'64	-4'18	-2'81	-2'69	+4'30	+0'75	-0'13	+8'96
	Pagan .	-0'03	-0'03	-0'13	-0'53	-2'16	+1'92	-1'40	-2'17	-1'91	+3'71	+0'48	-0'17	-2'42
	Kyauksai .	-0'19	-0'07	+0'08	-1'03	+0'54	-1'83	-1'76	-2'76	-3'48	+4'09	-0'40	-0'27	-7'08
	Bhamo .	-0'67	-0'38	-0'05	-1'47	+1'15	-0'19	-15'69	+2'45	-3'14	-1'27	+4'22	-0'44	-15'48
	Kindat .	-0'25	-0'13	-0'03	-0'75	-1'82	-0'40	-2'71	-4'21	+2'41	-1'69	-0'10	-0'28	-9'96
	Magwe .	0	-0'02	-0'02	-0'90	-2'18	+8'00	+0'08	-0'80	-1'99	+0'11	+0'55	-0'44	+2'39
	Yamethin .	-0'05	-0'22	-0'14	-1'99	-0'40	-1'25	-1'18	-4'36	-0'35	+5'23	-0'23	-0'42	-5'36
	Fort Sagaing .	-0'03	-0'04	+0'08	-0'97	-1'51	-1'60	-3'33	-3'09	-0'72	+0'67	-0'67	-0'29	-11'50
	Mingin .	-0'11	+0'07	+0'61	-1'34	-1'39	+4'41	-4'25	-6'78	+0'91	+3'61	+1'78	-0'20	-2'68
	Toungoo .	-0'06	0	-0'08	-1'90	+4'95	+1'26	-5'08	+3'68	+1'28	+2'27	+1'51	-0'16	+7'67
	Shwegyin .	-0'12	-0'22	-0'28	-1'55	-2'88	-6'70	-12'76	+0'18	+3'67	+3'46	-0'99	-0'07	-18'26
	Moulmein .	-0'17	-0'13	-0'23	-3'12	-4'50	-4'48	+9'97	+12'06	+0'27	+2'58	-1'35	-0'03	+10'87
	Tavoy .	-0'17	-0'11	-0'93	+0'07	-10'88	-12'48	+11'33	-2'17	-6'31	+7'84	-2'04	+1'52	-14'33
	Mergui .	-0'72	+1'49	-1'19	-4'00	-8'36	-7'63	+3'32	+0'54	+5'01	+6'91	-2'92	-0'35	-7'90
	Myingyan .	-0'04	-0'05	+0'31	-0'33	-1'53	-1'42	+0'60	-2'58	+1'59	+4'74	-0'15	-0'19	+0'95
	Monywa .	+0'05	0	-0'12	-0'69	-1'75	+0'38	-1'70	-3'45	+1'64	+3'42	-0'04	-0'16	-2'42
BAY IS- LANDS.	Port Blair .	-0'40	+4'71	-0'34	-2'90	-7'47	+0'93	+13'22	-1'95	-5'51	-4'55	+2'67	+3'31	+1'72
	Cocos Island .	?	?	?	-0'93	+0'60	-3'61	+10'64	+1'48	-5'63	-0'23	-2'36	-1'10	?
KASHMIR.	Leh .	-0'03	+0'90	+1'27	-0'14	-0'10	+0'14	-0'15	-0'45	-0'18	-0'20	-0'03	-0'18	+0'85
	Srinagar .	-0'19	-3'69	+3'09	+0'11	-0'17	-1'37	+4'85	+2'17	+2'36	+0'44	-0'15	+1'25	+8'70
	Skardu .	-0'86	-0'57	-0'06	-2'49	-1'01	-0'17	+4'28	-0'51	-0'19	-0'03	-0'09	-0'71	-2'41
	Gilgit .	+0'77	+0'49	-0'20	-0'72	-0'42	+0'07	+0'74	+0'07	+0'24	-0'11	-0'04	-0'08	+0'81
NEPAL	Katmandu .	+0'19	-1'07	-0'42	-1'76	-1'16	+0'71	-5'16	+1'32	+4'30	+2'13	-0'18	-0'26	-1'36
EXTRA INDIA.	Meshed .	+1'44	+0'12	+2'40	-0'54	+1'50	-0'24	+1'24	-0'01	-0'07	-0'59	-0'44	+0'11	+4'92
	Teheran .	-0'08	+2'44	+1'07	+0'33	+0'39	-0'04	-0'35	+0'22	-0'11	-0'14	-1'17	-0'67	+1'89

TABLE XXVI.—*Departure of the monthly and total rainfall (in inches) in 1903 from the averages of past years—concl'd.*

PROV- INCE.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
EXTRA INDIA— concl'd.	Ispahan .	+0'26	—0'14	+0'16	—0'37	+0'21	0	—0'05	+0'01	+0'40	—0'27	—0'80	—0'43	—1'02
	Bushire .	—2'83	—2'27	—0'43	+0'23	—0'01	0	0	0	0	—0'12	—1'98	—0'77	—8'18
	Jask .	+0'88	—1'07	—0'99	+0'20	0	—0'10	—0'02	0	0	—0'06	—0'54	—0'17	—1'87
	Muscat .	—1'06	—0'86	—1'00	+0'41	0	—0'29	—0'04	0	0	—0'02	—0'61	—0'41	—3'88
	Baghdad .	—0'56	—1'04	—1'11	—0'43	—0'22	—0'01	0	—0'09	0	—0'04	—0'84	—1'54	—5'88
	Aden .	+3'04	+0'84	—0'68	—0'25	—0'17	—0'04	—0'04	—0'13	—0'12	—0'01	+0'29	+0'39	+3'12

TABLE XXVII.—*Geographical summary of rainfall anomalies in 1903.*

METEOROLOGICAL DIVISION.	Area square miles.	Number of stations.	Normal rainfall.	Actual rainfall.	Mean excess or defect.	Total excess square miles x 1 inch.	Total defect square miles x 1 inch.
			Inches.	Inches.	Inches.		
I. Punjab Plains	120,000	29	21'28	29'03	—1'25		150,000
II. United Provinces of Agra and Oudh	83,500	44	38'18	41'52	+3'34	278,890	
IIIa. Rajputana East	67,000	29	25'93	24'61	—1'37		91,790
IIIb. „ West	58,000	10	11'71	12'35	+0'64	37,120	
IV. Central India States	91,000	25	42'92	38'98	—3'94		358,540
V. Bihar	30,000	15	45'58	34'18	—11'40		342,000
VI. Western Bengal	38,000	14	53'69	47'27	—6'42		243,960
VII. Lower „	54,000	23	66'16	61'33	—4'83		260,820
VIII. Assam and Cachar	61,000	17	95'09	94'61	—0'48		29,280
IX. Orissa and Northern Circars	27,000	32	51'87	59'38	+7'51	202,770	
X. Central Provinces, South	61,000	19	52'47	55'60	+3'13	190,930	
XI. Berar and Khandesh	43,000	12	34'92	39'05	+4'13	177,590	
XII. Gujarat	54,500	13	33'02	29'92	—3'10		168,950
XIII. Sind and Cutch	68,000	10	8'26	5'94	—2'32		157,760
XIV. North Deccan	48,000	13	30'78	30'34	—0'44		21,120
XV. Konkan and Ghats	16,000	11	139'17	144'63	+5'46	87,360	
XVI. Malabar and Ghats	18,000	8	114'93	126'99	+12'06	217,080	
XVII. Hyderabad	74,000	16	33'25	48'13	+14'88	1,101,120	
XVIII. Mysore and Bellary	58,000	18	29'15	44'40	+15'25	884,500	
XIX. Carnatic	72,000	36	36'84	49'23	+12'39	892,080	
XX. Arakan	11,000	6	154'03	148'49	—5'54		60,940
XXI. Pegu	32,500	7	72'55	75'01	+0'46	14,950	
XXII. Tenasserim	10,500	4	173'33	165'93	—7'40		77,700
XXIII. Upper Burma	?	13	39'50	34'93	—4'57		

On the mean of the whole area represented in the above table there was an excess of 1'77 inches, or excluding the Burmese Peninsula of 1'97 inches.

TABLE XXVIII.—*Geographical summary of the distribution of rainfall in 1903 according to seasons.*

METEOROLOGICAL DIVISION.	JANUARY AND FEBRUARY.			MARCH TO MAY.			JUNE TO OCTOBER.			NOVEMBER AND DECEMBER.		
	Normal average.	Actual average.	Difference.	Normal average.	Actual average.	Difference.	Normal average.	Actual average.	Difference.	Normal average.	Actual average.	Difference.
	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
North-West Himalayas	6'03	3'64	—2'39	7'11	7'89	+0'78	42'43	33'87	—8'56	1'66	1'15	—0'51
Punjab Plains	2'21	0'91	—1'30	2'42	2'98	+0'56	15'92	15'78	—0'14	0'73	0'37	—0'36
United Provinces of Agra and Oudh.	1'52	0'55	—0'97	1'38	0'50	—0'88	35'81	40'72	+4'91	0'45	0'04	—0'41
Rajputana	0'49	0'14	—0'35	0'78	0'57	—0'21	21'45	20'74	—0'71	0'39	0	—0'39
Central India States	0'99	0'15	—0'84	0'75	0'80	+0'05	40'51	38'65	—1'86	0'65	0	—0'65
Bihar	1'26	0'34	—0'92	2'50	0'87	—1'63	41'12	31'67	—9'45	0'32	0	—0'32
Western Bengal and Chota Nagpur.	1'51	1'33	—0'18	3'63	3'64	+0'01	47'90	42'29	—5'67	0'60	0'01	—0'59
Lower Bengal	1'39	1'46	+0'07	10'55	6'87	—3'68	53'08	52'20	—0'88	0'71	0'39	—0'32
Eastern Himalayas	1'64	0'93	—0'71	18'03	10'19	—7'84	103'92	114'46	+10'54	0'55	0	—0'55
Assam and Eastern Bengal	1'83	1'49	—0'34	22'64	15'92	—6'72	69'44	75'05	+5'61	1'19	2'14	+0'95
Orissa and Northern Circars	0'74	1'33	+0'59	4'81	3'80	—1'01	44'11	51'09	+6'98	2'18	3'36	+1'18
Central Provinces, South	0'93	0'48	—0'45	1'85	1'85	0	48'85	53'19	+4'34	0'83	0'06	—0'77
Berar and Khandesh	0'52	0'27	—0'25	1'08	2'62	+1'54	32'34	36'16	+3'82	0'99	0	—0'99
Gujarat	0'18	0	—0'18	0'37	0'27	—0'10	31'95	29'37	—2'58	0'30	0	—0'30
Sind and Cutch	0'49	0'13	—0'36	0'45	0'59	+0'14	7'89	5'65	—2'24	0'21	0	—0'21
North Deccan	0'18	0'12	—0'06	3'50	2'78	—0'72	25'65	25'93	+0'28	1'45	1'50	+0'05
Konkan and Ghats	0'22	0	—0'22	1'71	9'78	+8'07	131'63	130'04	—1'59	0'90	0'65	—0'25
Malabar and Ghats	0'52	0'36	—0'16	11'34	10'18	—1'16	99'16	109'27	+10'11	3'91	7'20	+3'29
Hyderabad	0'26	0'40	+0'14	1'90	2'06	+0'16	29'45	44'29	+14'84	1'30	1'62	+0'32
Ceded Districts and Mysore	0'24	0'11	—0'13	4'80	5'00	+0'20	21'60	30'41	+8'81	2'52	8'89	+6'37
Carnatic	0'92	1'59	+0'67	4'07	5'14	+1'07	21'12	23'25	+2'13	10'66	19'82	+9'16
Nilgiris	2'53	1'32	—1'21	9'96	7'27	—2'69	26'70	33'94	+7'24	10'92	10'81	—0'11
Arakan	0'77	1'98	+1'21	14'96	10'93	—4'03	135'45	129'70	—5'75	2'87	5'87	+3'00
Pegu	0'20	0'02	—0'18	8'95	7'57	—1'38	66'27	68'91	+2'64	2'60	2'58	—0'02
Tenasserim	0'98	0'93	—0'05	22'36	12'90	—9'46	147'69	151'36	+3'67	2'31	0'75	—1'56
Upper Burma	0'21	0'03	—0'18	6'16	4'91	—1'27	30'29	27'46	—2'83	1'48	1'81	+0'33
Bay Islands	1'86	6'17	+4'31	15'62	9'93	—5'69	69'09	71'48	+2'39	10'68	11'94	+1'26

TABLE XXIX.—Average actual and normal rainfall data of the 57 meteorological divisions of India for the four seasons of the year 1903 and for the whole year.

PROVINCE.	DIVISION.	JANUARY AND FEBRUARY.			MARCH TO MAY.			JUNE TO OCTOBER.			NOVEMBER AND DECEMBER.			WHOLE YEAR.		
		Average actual rainfall.	Average normal rainfall.	Departure of actual from normal.	Average actual rainfall.	Average normal rainfall.	Departure of actual from normal.	Average actual rainfall.	Average normal rainfall.	Departure of actual from normal.	Average actual rainfall.	Average normal rainfall.	Departure of actual from normal.	Average actual rainfall.	Average normal rainfall.	Departure of actual from normal.
		Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
BURMA . . .	1. Tenasserim . . .	0'33	0'62	- 0'29	15'53	27'83	- 12'30	166'87	165'06	+ 1'81	1'84	2'15	- 0'31	184'57	195'66	- 11'09
	2. Lower Burma, Deltaic	0'14	0'21	- 0'07	8'12	14'06	- 5'94	87'39	88'47	- 0'58	2'77	1'76	+ 1'01	98'92	104'50	- 5'58
	3. Central do. . .	0	0'07	- 0'07	5'79	7'65	- 1'86	50'04	46'55	+ 3'49	2'00	1'26	+ 0'74	57'83	55'53	+ 2'30
	4. Upper do. . .	0'14	0'30	- 0'15	4'60	7'34	- 2'74	31'18	32'39	- 1'21	2'07	1'61	+ 0'46	37'99	41'64	- 3'65
	5. Arakan . . .	0'22	0'20	+ 0'02	8'68	14'27	- 5'59	155'48	157'02	- 1'54	4'58	1'93	+ 2'65	168'96	173'42	- 4'46
BENGAL AND ASSAM . . .	6. Eastern Bengal . . .	1'97	1'38	+ 0'59	9'81	17'00	- 7'19	67'44	69'59	- 2'15	2'38	1'26	+ 1'12	81'60	83'23	- 7'63
	7. Assam Surma . . .	1'25	2'28	- 1'03	24'99	38'20	- 13'21	98'99	88'31	+ 10'68	3'67	1'61	+ 2'06	128'90	130'40	- 1'50
	8. Do. Hills . . .	1'49	1'98	- 0'49	17'05	27'17	- 10'12	105'71	108'46	+ 0'25	4'07	1'61	+ 2'46	128'32	136'22	- 7'90
	9. Do. Brahmaputra . . .	1'87	2'20	- 0'33	17'54	23'68	- 6'14	69'09	62'70	+ 6'39	1'18	0'93	+ 0'25	89'68	89'51	+ 0'17
	10. Deltaic Bengal . . .	1'96	1'43	+ 0'53	6'63	9'90	- 3'27	47'56	48'96	- 1'40	0'53	0'92	- 0'39	56'68	61'21	- 4'53
	11. Central do. . .	1'01	1'21	- 0'20	5'15	6'78	- 1'63	40'44	47'95	- 7'51	0'07	0'52	- 0'45	46'67	56'46	- 9'29
	12. North do. . .	0'58	1'02	- 0'44	9'02	16'55	- 7'53	87'01	82'36	+ 4'65	0'01	0'30	- 0'29	96'62	100'23	- 3'61
	13. Bengal Hills . . .	0'65	1'61	- 0'96	9'75	14'51	- 4'76	96'53	93'21	+ 3'32	0	0'54	- 0'54	106'93	109'87	- 2'94
	14. Orissa . . .	1'85	1'00	+ 0'85	4'01	6'02	- 2'01	54'17	48'89	+ 5'28	1'31	1'66	- 0'35	61'34	57'57	+ 3'77
	15. Chota Nagpur . . .	1'60	1'32	+ 0'28	3'90	3'78	+ 0'12	42'28	48'40	- 6'12	0'03	0'59	- 0'56	47'81	54'09	- 6'28
	16. South Bihar . . .	0'43	1'42	- 0'99	0'71	2'05	- 1'35	29'11	41'35	- 12'24	0	0'39	- 0'39	30'25	45'22	- 14'97
	17. North do. . .	0'34	1'12	- 0'78	1'32	4'20	- 2'88	41'53	47'84	- 6'31	0	0'20	- 0'20	43'16	53'36	- 10'17
	18. United Provinces, East	0'09	1'19	- 1'10	0'25	0'86	- 0'61	43'50	37'39	+ 6'11	0	0'39	- 0'39	43'84	39'83	+ 4'01
	19. South Oudh . . .	0'26	1'15	- 0'89	0'14	0'89	- 0'75	43'37	35'13	+ 8'24	0	0'46	- 0'46	43'77	37'63	+ 6'14
	20. North do. . .	0'62	1'29	- 0'67	1'19	1'52	- 0'33	51'31	38'86	+ 12'45	0	0'42	- 0'42	53'12	42'09	+ 11'03
	21. United Provinces, Central.	0'14	0'99	- 0'85	0'20	0'71	- 0'51	34'53	32'57	+ 1'96	0	0'49	- 0'49	34'87	34'76	+ 0'11
UNITED PROVINCES OF AGRA AND OUDH. . .	22. United Provinces, West	0'46	1'10	- 0'64	0'33	0'97	- 0'64	21'43	23'69	- 2'26	0	0'42	- 0'42	22'22	26'18	- 3'96
	23. United Provinces, East Submontane.	0'29	1'22	- 0'93	0'93	1'72	- 0'79	55'50	42'19	+ 13'31	0	0'25	- 0'25	56'72	45'38	+ 11'34
	24. United Provinces, West Submontane.	1'39	2'66	- 1'27	0'87	1'85	- 0'98	39'47	42'38	- 2'91	0'28	0'72	- 0'44	42'01	47'61	- 5'60
	25. United Provinces, Hills	2'51	4'84	- 2'33	4'03	4'62	- 0'59	46'15	53'57	- 7'42	0'39	1'07	- 0'68	53'05	64'10	- 11'02
	26. South-East Punjab . . .	0'45	1'30	- 0'85	0'37	1'07	- 0'70	15'07	19'32	- 4'25	0'04	0'49	- 0'45	15'93	22'15	- 6'25
PUNJAB . . .	27. South do. . .	0'51	1'45	- 0'94	1'07	1'10	- 0'03	12'84	13'35	- 0'51	0'04	0'42	- 0'38	14'46	16'32	- 1'86
	28. Central do. . .	0'59	2'22	- 1'63	2'84	2'01	+ 0'83	13'93	13'79	+ 0'14	0'17	0'58	- 0'41	17'53	18'60	- 1'07
	29. Punjab Submontane . . .	1'86	3'45	- 1'59	3'88	2'62	+ 1'26	25'30	23'25	+ 2'05	0'76	0'88	- 0'12	31'80	30'20	+ 1'60
	30. Do. Hills . . .	4'29	6'75	- 2'46	9'58	6'84	+ 2'74	37'09	43'76	- 6'67	2'48	1'85	+ 0'63	53'44	53'20	- 5'76
	31. West Punjab . . .	0'25	1'17	- 0'92	2'06	1'33	+ 0'73	7'50	6'28	+ 1'62	0'19	0'30	- 0'11	10'40	9'08	+ 1'32

TABLE XXIX.—Average actual and normal rainfall data of the 57 meteorological divisions of India for the four seasons of the year 1903 and for the whole year—concl'd.

PROVINCE.	DIVISION.	JANUARY AND FEBRUARY.			MARCH TO MAY.			JUNE TO OCTOBER.			NOVEMBER AND DECEMBER.			WHOLE YEAR.		
		Average actual rainfall.	Average normal rainfall.	Departure of actual from normal.	Average actual rainfall.	Average normal rainfall.	Departure of actual from normal.	Average actual rainfall.	Average normal rainfall.	Departure of actual from normal.	Average actual rainfall.	Average normal rainfall.	Departure of actual from normal.	Average actual rainfall.	Average normal rainfall.	Departure of actual from normal.
		Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
NORTH-WEST FRONTIER PROVINCE.	32. North-West Frontier Province.	1'16	2'84	-1'68	6'67	4'38	+2'29	8'24	9'74	-1'50	0'80	1'02	-0'22	16'87	17'98	-1'11
	33. Malabar	0'14	0'38	-0'24	10'28	10'97	-0'69	118'12	109'95	+8'17	7'07	4'21	+2'86	135'61	125'51	+10'10
BOMBAY AND MALABAR COAST DISTRICTS (MADRAS).	33A. Travancore . . .	1'16	...	...	13'53	...	...	74'28	...	...	9'21	...	...	98'18	...	...
	34. Madras, South Central	0'26	0'47	-0'21	6'88	5'98	+0'90	24'55	18'44	+6'11	11'28	5'12	+6'16	42'97	30'01	+12'96
	35. Coorg	0'01	...	...	8'37	...	...	91'89	...	...	10'88	...	...	111'15	...	...
	36. Mysore	0'03	0'14	-0'11	5'24	5'17	+0'07	34'28	26'10	+8'18	9'06	3'16	+5'90	48'61	34'57	+14'04
	37. Konkan	0	0'18	-0'18	7'71	1'99	+5'72	110'35	109'97	+0'38	0'73	0'94	-0'21	118'79	113'68	+5'71
	38. Bombay Deccan . .	0'16	0'17	-0'01	3'35	3'10	+0'25	29'63	31'06	-1'43	1'22	1'34	-0'12	34'36	35'67	-1'31
	39. Hyderabad, North .	0'46	0'24	+0'22	1'72	1'53	+0'19	41'11	32'60	+8'51	0'85	1'30	-0'45	44'14	35'67	+8'47
	40. Khandesh	0'35	0'24	+0'11	3'02	0'83	+2'19	27'13	29'24	-2'11	0'02	0'70	-0'68	30'52	31'01	-0'49
CENTRAL PROVINCES AND BERAR.	41. Berar	0'35	0'52	-0'17	1'89	0'98	+0'91	35'37	29'61	+5'76	0	0'85	-0'85	37'61	31'96	+5'65
	42. Central West. Provinces,	0'37	0'77	-0'40	2'02	0'98	+1'04	43'67	41'51	+2'16	0	0'81	-0'81	46'06	44'07	+1'99
	43. Central Central. Provinces,	0'39	1'01	-0'62	1'31	1'29	+0'52	51'46	47'91	+3'55	0'03	0'67	-0'64	53'69	50'88	+2'81
	44. Central East. Provinces,	0'73	0'85	-0'12	1'84	1'93	-0'09	48'06	48'57	-0'51	0'01	0'70	-0'69	50'64	52'05	-1'41
BOMBAY (NORTH).	45. Gujarat	0	0'15	-0'15	0'45	0'25	+0'20	38'00	40'76	-2'76	0	0'29	-0'29	38'45	41'45	-3'00
	46. Kathiawar and Catch.	0'01	0'15	-0'14	0'34	0'29	+0'05	25'02	26'64	-1'62	0	0'39	-0'39	25'37	27'47	-2'10
	47. Sind	0'16	0'53	-0'37	0'31	0'39	-0'08	3'40	5'51	-2'11	0	0'20	-0'20	3'87	6'63	-2'76
	48. Baluchistan Hills .	1'42	2'87	-1'45	5'15	1'85	+3'30	1'39	2'16	-0'77	0'24	1'50	-1'26	8'20	8'38	-0'18
RAJPUTANA AND CENTRAL INDIA.	49. Central India, East	0'16	0'87	-0'71	0'45	0'51	-0'06	37'65	36'31	+1'34	0	0'64	-0'64	38'26	38'33	-0'07
	50. Rajputana, East, Central India, West.	0'13	0'64	-0'51	0'51	0'74	-0'23	23'88	22'94	+0'94	0	0'59	-0'59	24'52	24'91	-0'39
	51. West Rajputana . .	0'12	0'29	-0'17	0'49	0'44	+0'05	12'77	10'74	+2'03	0	0'34	-0'34	13'38	11'81	+1'57
MADRAS	52. East Coast, North .	0'54	0'51	+0'03	3'15	3'64	-0'49	43'92	34'56	+9'36	6'14	3'29	+2'85	53'75	42'00	+11'75
	53. Hyderabad, South .	0'34	0'27	+0'07	2'33	2'12	+0'27	44'15	25'12	+18'03	2'32	1'27	+1'05	49'20	29'78	+19'42
	54. Madras, Central . .	0'36	0'12	+0'24	2'53	2'46	+0'09	24'17	19'65	+4'52	8'86	2'59	+6'27	35'94	24'82	+11'12
	55. East Coast, Central .	1'99	0'57	+1'42	4'67	1'91	+2'76	20'33	20'50	-0'17	27'12	10'19	+16'93	54'11	33'17	+20'94
	56. East Coast, South .	1'70	0'90	+0'80	5'22	3'38	+1'84	26'20	23'17	+3'03	24'51	14'17	+10'34	57'63	41'62	+16'01
	57. Madras, South . .	1'47	1'40	+0'07	4'32	4'92	-0'60	12'72	12'41	+0'31	10'76	9'82	+0'94	29'27	28'55	+0'72

TABLE XXX.—Average actual and normal number of rainy days of the 57 meteorological divisions of India for the four seasons of the year 1903 and for the whole year

PROVINCE.	DIVISION.	JANUARY AND FEBRUARY.			MARCH TO MAY.			JUNE TO OCTOBER.			NOVEMBER AND DECEMBER.			WHOLE YEAR.		
		Average actual number of rainy days.	Average normal number of rainy days.	Departure of actual from normal.	Average actual number of rainy days.	Average normal number of rainy days.	Departure of actual from normal.	Average actual number of rainy days.	Average normal number of rainy days.	Departure of actual from normal.	Average actual number of rainy days.	Average normal number of rainy days.	Departure of actual from normal.	Average actual number of rainy days.	Average normal number of rainy days.	Departure of actual from normal.
BURMA	1. Tenasserim . . .	0.6	1.1	-0.5	14.7	25.1	-10.4	121.2	114.4	+6.8	3.1	3.7	-0.6	139.6	144.3	-4.7
	2. Lower Burma Deltaic. . .	0.3	0.3	0	11.1	17.5	-6.4	111.4	103.0	+8.4	3.8	2.8	+1.0	126.6	123.6	+3.0
	3. Central Burma . . .	0	0.1	-0.1	8.3	11.2	-2.9	83.0	75.0	+8.0	3.4	2.0	+1.4	94.7	88.3	+6.4
	4. Upper Burma . . .	0.4	0.7	-0.3	8.8	11.2	-2.4	43.4	45.1	-1.7	3.4	2.9	+0.5	56.0	59.9	-3.9
	5. Arakan . . .	0.7	0.3	+0.4	8.0	14.1	-6.1	112.1	105.0	+7.1	5.3	2.7	+2.6	126.1	122.1	+4.0
BENGAL AND ASSAM	6. Eastern Bengal . . .	2.8	2.5	+0.3	13.7	18.9	-5.2	76.4	72.0	+4.4	2.4	1.6	+0.8	95.3	95.0	+0.3
	7. Assam Surma . . .	3.2	4.3	-1.1	31.9	37.2	-5.3	94.0	87.2	+6.8	2.3	2.1	+0.2	131.4	130.8	+0.6
	8. Do. Hills . . .	2.9	4.3	-1.4	24.4	30.2	-5.8	98.3	89.6	+8.7	3.5	3.1	+0.4	129.1	127.2	+1.9
	9. Do. Brahmaputra . . .	4.9	5.6	-0.7	29.7	32.5	-2.8	77.0	69.1	+7.9	1.9	2.2	-0.3	113.5	109.4	+4.1
	10. Deltaic Bengal . . .	3.7	2.3	+1.4	10.9	13.8	-2.9	64.6	62.1	+2.5	1.1	1.2	-0.1	80.3	79.4	+0.9
	11. Central do. . .	2.9	2.4	+0.5	9.0	10.0	-1.0	51.4	58.3	-3.9	0.1	0.8	-0.7	66.4	71.5	-5.1
	12. North do. . .	1.6	2.3	-0.7	12.3	18.6	-6.3	68.5	66.5	+2.0	0	0.7	-0.7	82.4	88.1	-5.7
	13. Bengal Hills . . .	2.1	3.8	-1.7	17.7	25.8	-8.1	94.8	89.2	+5.6	0	1.4	-1.4	114.6	120.2	-5.6
	14. Orissa . . .	3.8	1.8	+2.0	6.3	9.1	-2.8	66.9	58.4	+8.5	2.4	2.0	+0.4	79.4	71.3	+8.1
	15. Chota Nagpur . . .	3.8	2.7	+1.1	7.5	6.8	+0.7	59.6	58.2	+1.4	0.1	1.0	-0.9	71.0	68.7	+2.3
	16. South Bihar . . .	1.0	2.9	-1.9	1.9	3.5	-1.6	42.3	47.0	-4.7	0	0.6	-0.6	45.2	54.0	-8.8
	17. North do. . .	0.9	2.4	-1.5	2.3	6.2	-3.9	47.2	49.0	-1.8	0	0.5	-0.5	50.4	58.1	-7.7
UNITED PROVINCES OF AGRA AND OUDH.	18. United Provinces, East. . .	0.4	2.6	-2.2	0.6	1.9	-1.3	44.7	42.7	+2.0	0	0.7	-0.7	45.7	47.9	-2.2
	19. South Oudh . . .	0.9	2.4	-1.5	0.3	2.0	-1.7	41.2	38.6	+2.6	0	0.8	-0.8	42.4	43.8	-1.4
	20. North do. . .	1.7	2.8	-1.1	2.1	2.9	-0.8	44.4	39.9	+4.5	0	0.8	-0.8	48.2	46.4	+1.8
	21. United Provinces, Central. . .	0.5	2.2	-1.7	0.6	1.8	-1.2	37.3	37.2	+0.1	0	0.9	-0.9	38.4	42.1	-3.7
	22. United Provinces, West. . .	1.6	2.4	-0.8	1.1	2.6	-1.5	24.6	27.6	-3.0	0	0.9	-0.9	27.3	33.5	-6.2
	23. United Provinces, East Submontane. . .	1.0	2.5	-1.5	1.9	3.1	-1.2	48.6	43.0	+5.6	0	0.6	-0.6	51.5	49.2	+2.3
	24. United Provinces, West Submontane. . .	3.2	4.8	-1.6	2.5	4.1	-1.6	35.6	39.0	-3.4	0.5	1.4	-0.9	41.8	49.3	-7.5
	25. United Provinces Hills. . .	4.9	8.1	-3.2	10.0	9.7	+0.3	54.6	57.1	-2.5	1.3	2.0	-0.7	70.8	76.9	-6.1
PUNJAB	26. South-East Punjab . . .	1.5	3.0	-1.5	1.2	2.0	-1.7	20.6	22.1	-1.5	0.1	1.0	-0.9	23.4	29.0	-5.6
	27. South Punjab . . .	1.4	3.2	-1.8	2.7	2.5	+0.2	14.4	16.2	-1.8	0.1	0.9	-0.8	18.6	22.8	-4.2
	28. Central Punjab . . .	2.0	4.6	-2.6	6.9	4.7	+2.2	17.3	15.7	+1.6	0.7	1.1	-0.4	26.9	26.1	+0.8
	29. Punjab Submontane . . .	3.0	5.9	-2.9	7.6	5.5	+2.1	23.1	24.1	-1.0	1.3	1.5	-0.2	35.0	37.0	-2.0
	30. Do. Hills . . .	8.1	9.7	-1.5	18.5	11.7	+6.8	41.5	43.3	-1.8	2.9	2.7	+0.2	71.1	67.4	+3.7
	31. West Punjab . . .	1.0	2.7	-1.7	5.9	3.1	+2.8	10.9	8.6	+2.3	0.7	0.7	0	18.5	15.1	+3.4

TABLE XXX.—Average actual and normal number of rainy days of the 57 meteorological divisions of India for the four seasons of the year 1903 and for the whole year.—concl'd.

PROVINCE.	DIVISION.	JANUARY AND FEBRUARY.			MARCH TO MAY.			JUNE TO OCTOBER.			NOVEMBER AND DECEMBER.			WHOLE YEAR.		
		Average actual number of rainy days.	Average normal number of rainy days.	Departure of actual from normal.	Average actual number of rainy days.	Average normal number of rainy days.	Departure of actual from normal.	Average actual number of rainy days.	Average normal number of rainy days.	Departure of actual from normal.	Average actual number of rainy days.	Average normal number of rainy days.	Departure of actual from normal.	Average actual number of rainy days.	Average normal number of rainy days.	Departure of actual from normal.
NORTH-WEST * FRONTIER PROVINCE.	32. North-West Frontier Province.	2.6	5.5	-2.9	15.5	8.8	+6.7	12.6	13.8	-1.2	1.8	1.7	+0.1	32.5	29.8	+2.7
	33. Malabar	0.2	0.3	-0.1	13.0	13.7	-0.7	103.7	97.8	+5.9	8.0	6.2	+1.8	124.9	118.0	+6.9
BOMBAY AND MALABAR COAST DISTRICTS (MADRAS).	33-A. Travancore . . .	1.3	...	...	18.7	...	...	87.3	...	...	10.4	...	...	117.7	...	...
	34. Madras, South Central	0.6	0.7	-0.1	9.3	9.3	0	37.0	28.6	+8.4	14.5	8.3	+6.2	61.4	46.9	+14.5
	35. Coorg	0	...	...	13.2	...	...	98.6	...	...	14.0	...	...	125.8	...	...
	36. Mysore	0.1	0.2	-0.1	8.0	8.8	-0.8	51.2	39.8	+11.4	12.4	4.9	+7.5	71.7	53.7	+18.0
	37. Konkan	0	0.3	-0.3	5.2	2.7	+2.5	91.1	92.0	-0.9	1.7	1.6	+0.1	98.0	96.6	+1.4
	38. Bombay Deccan . .	0.2	0.4	-0.2	5.4	5.9	-0.5	44.1	45.1	-1.0	2.3	2.2	+0.1	52.0	53.6	-1.6
	39. Hyderabad, North .	1.0	0.5	+0.5	3.8	3.7	+0.1	51.5	46.0	+5.5	1.8	2.2	-0.4	58.1	52.4	+5.7
	40. Khandesh	0.7	0.5	+0.2	3.4	1.6	+1.8	40.7	42.1	-1.4	0.1	1.2	-1.1	44.9	45.4	-0.5
CENTRAL PROVINCES AND BERAR.	41. Berar	0.7	1.2	-0.5	4.0	2.2	+1.8	49.8	41.0	+8.8	0	1.3	-1.3	54.5	45.7	+8.8
	42. Central Provinces, West.	0.9	1.4	-0.5	4.0	2.2	+1.8	55.4	48.6	+6.8	0	1.3	-1.3	60.3	53.5	+6.8
	43. Central Provinces, Central.	1.3	1.9	-0.6	4.3	2.8	+1.5	58.8	53.1	+5.7	0.1	1.2	-1.1	64.5	59.0	+5.5
	44. Central Provinces, East	1.5	1.8	-0.3	4.4	4.3	+0.1	60.2	53.6	+6.6	0	1.2	-1.2	66.1	60.9	+5.2
BOMBAY (NORTH)	45. Gujarat	0	0.3	-0.3	0.9	0.5	+0.4	44.1	44.2	-0.1	0	0.6	-0.6	45.0	45.6	-0.6
	46. Kathiawar and Cutch	0.1	0.3	-0.2	0.8	0.6	+0.2	30.1	29.4	+0.7	0	0.6	-0.6	31.0	30.9	+0.1
	47. Sind	0.5	1.5	-1.0	1.1	1.0	+0.1	4.9	6.2	-1.3	0	0.5	-0.5	6.5	9.2	-2.7
	48. Baluchistan Hills .	3.3	6.6	-3.3	13.1	5.1	+8.0	2.8	3.9	-1.1	0.9	3.4	-2.5	20.1	16.0	+4.1
RAJPUTANA AND CENTRAL INDIA.	49. Central India, East .	0.6	1.9	-1.3	1.2	1.3	-0.1	45.5	42.0	+3.5	0	1.4	-1.4	47.3	46.6	+0.7
	50. Rajputana, East, Central India, West.	0.6	1.6	-1.0	1.5	1.9	-0.4	29.7	28.2	+1.5	0	1.2	-1.2	31.8	32.9	-1.1
	51. West Rajputana . .	0.3	0.8	-0.5	1.3	1.1	+0.2	13.2	13.5	-0.3	0	0.7	-0.7	14.8	16.1	-1.3
MADRAS	52. East Coast, North .	0.9	0.7	+0.2	5.0	6.1	-1.1	55.9	45.9	+10.0	7.5	3.5	+4.0	69.3	56.2	+13.1
	53. Hyderabad, South .	0.9	0.6	+0.3	4.8	4.3	+0.5	50.2	42.5	+7.7	4.2	2.5	+1.7	60.1	49.9	+10.2
	54. Madras, Central . .	0.5	0	+0.6	4.5	4.7	-0.1	38.4	30.6	+7.8	10.3	4.1	+6.2	53.9	39.4	+14.5
	55. East Coast, Central .	2.2	0.8	+1.4	3.6	2.7	+0.9	32.5	28.3	+4.2	16.1	9.1	+7.0	54.4	40.9	+13.5
	56. East Coast, South .	2.6	1.4	+1.2	6.6	4.6	+2.0	36.2	31.1	+5.1	18.5	14.3	+4.2	63.9	51.4	+12.5
	57. Madras, South . .	2.7	2.3	+0.4	7.9	7.5	+0.4	21.4	18.7	+2.7	12.6	12.5	+0.1	44.6	41.0	+3.6

I.—The cold weather period.—The cold weather rains failed almost completely in this as in the corresponding period of the previous year.

There were three disturbances in January and four in February but they were very feeble and occasioned only light precipitation in north-west India.

Weather was, on the other hand, more rainy than usual during January in south India, the Deccan, Orissa, Chota Nagpur, east and deltaic Bengal and Cachar.

The most important features of the rainfall distribution were as follows :—

- (1) The rainfall of the period was less than a tenth of an inch in Central Burma, Coorg, Mysore, the Konkan, Gujarat and Kathiawar and Cutch. The normal fall in these areas is less than a fifth of an inch and the deficiency was thus small and unimportant.

AREA.	RAINFALL OF PERIOD, JANUARY AND FEBRUARY.			
	Average actual, 1903.	Average normal.	Departure from normal.	Percentage departure from normal.
	Inch.	Inch.	Inch.	
Central Burma	0	0'07	—0'07	—100
Coorg	0'01	...	...	...
Mysore	0'03	0'14	—0'11	—79
Konkan	0	0'18	—0'18	—100
Gujarat	0	0'15	—0'15	—100
Kathiawar and Cutch	0'01	0'15	—0'14	—93

- (2) The rainfall of the period was above the normal in Arakan, East and Deltaic Bengal, Orissa, Chota Nagpur, Hyderabad, Khandesh and nearly the whole of Madras. The excess ranged from 5 per cent. in South Madras to 200 per cent. in Central Madras and 249 per cent. in East Coast Central.

The following gives data for the region of excessive rainfall :—

AREA.	RAINFALL OF PERIOD, JANUARY AND FEBRUARY.			
	Average actual, 1903.	Average normal.	Departure from normal.	Percentage departure from normal.
	Inches.	Inches.	Inches.	
Arakan	0'22	0'20	+0'02	+10
Eastern Bengal	1'97	1'38	+0'59	+43
Deltaic "	1'96	1'43	+0'53	+37
Orissa	1'85	1'00	+0'85	+85
Chota Nagpur	1'60	1'32	+0'28	+21
Hyderabad	0'40	0'26	+0'14	+54
Khandesh	0'35	0'24	+0'11	+46
Madras, South-Central	0'26	0'47	—0'21	—45
" East Coast, North	0'54	0'51	+0'03	+6
" Central	0'36	0'12	+0'24	+200
East Coast, Central	1'99	0'57	+1'42	+249
" " South	1'70	0'90	+0'80	+89
" South	1'47	1'40	+0'07	+5

- (3) The precipitation of the period was more or less in defect over the remainder of the country including the greater part of Burma, Assam, North and Central Bengal, Bihar, the whole of the United Provinces, Punjab, Sind, Rajputana, Baluchistan, Central India, the Central Provinces, Berar, the Bombay presidency excepting Khandesh, Mysore, and Malabar. The deficiency exceeded 50 per cent. over the greater part of this area and was absolutely greatest in actual amount in the hill districts of upper India where it averaged 2'40 inches.

The following gives data for the region of deficient precipitation —

AREA.	RAINFALL OF PERIOD, JANUARY AND FEBRUARY.			
	Average actual, 1903.	Average normal.	Departure from normal.	Percentage departure from normal.
	Inches.	Inches.	Inches.	
Tenasserim	0'33	0'62	—0'29	—47
Lower Burma, Deltaic	0'14	0'21	—0'07	—33
Upper Burma	0'14	0'30	—0'16	—53
Assam Surma	1'25	2'28	—1'03	—45
Assam Hills	1'49	1'98	—0'49	—25
Assam Brahmaputra	1'87	2'20	—0'33	—15
Central Bengal	1'01	1'21	—0'20	—17
North Bengal	0'58	1'02	—0'44	—43
Bengal Hills	0'65	1'61	—0'96	—60
South Bihar	0'43	1'42	—0'99	—70
North Bihar	0'34	1'12	—0'78	—70
United Provinces, East	0'09	1'19	—1'10	—92
South Oudh	0'26	1'15	—0'89	—77
North Oudh	0'62	1'29	—0'67	—52
United Provinces, Central	0'14	0'99	—0'85	—86
United Provinces, West	0'46	1'10	—0'64	—58
United Provinces, East Submontane	0'29	1'22	—0'93	—76
United Provinces, West Submontane	1'39	2'66	—1'27	—48
United Provinces Hills	2'51	4'84	—2'33	—48
South-East Punjab	0'45	1'30	—0'85	—65
South Punjab	0'51	1'45	—0'94	—65
Central Punjab	0'59	2'22	—1'63	—73
Punjab Submontane	1'86	3'45	—1'59	—46
Punjab Hills	4'29	6'75	—2'46	—36
West Punjab	0'25	1'17	—0'92	—79
North-West Frontier Province	1'16	2'84	—1'68	—59
Malabar	0'14	0'38	—0'24	—63
Bombay Deccan	0'16	0'17	—0'01	—9

AREA.	RAINFALL OF PERIOD JANUARY, FEBRUARY.			
	Average actual, 1903.	Average normal.	Departure from normal.	Percentage departure from normal.
	Inches.	Inches.	Inches.	
Gujarat	0	0'15	-0'15	-100
Sind	0'16	0'53	-0'37	-70
Baluchistan Hills	1'42	2'87	-1'45	-51
Central India, East	0'16	0'87	-0'71	-82
Rajputana, East and Central India West.	0'13	0'64	-0'51	-80
West Rajputana	0'12	0'29	-0'17	-59
Berar	0'35	0'52	-0'17	-33
Central Provinces, West	0'37	0'77	-0'40	-52
Central Provinces, Central	0'39	1'01	-0'62	-61
Central Provinces East	0'3	0'85	-0'12	-14

The average rainfall of the period for the whole of the plains of India was 0'68 inch and was 0'36 or 35 per cent. in defect of the normal.

It may be noted that the drought over India was associated with heavier rain than usual in the extreme north, west and south of the Indian monsoon region.

This is shown below :—

STATION.	RAINFALL OF PERIOD, JANUARY AND FEBRUARY.			
	Average actual, 1903.	Average normal.	Departure from normal.	Percentage departure from normal.
	Inches.	Inches.	Inches.	
Leh	1'55	0'66	+0'89	+135
Gilgit	1'56	0'37	+1'19	+322
Meshed	2'77	1'44	+1'33	+92
Teheran	4'38	2'11	+2'27	+108
Ispahan	0'54	0'43	+0'11	+26
Perim	1'47	0'60	+0'87	+145
Aden	4'38	0'61	+3'77	+618
Zanzibar	5'77	4'75	+1'02	+21
Seychelles	33'35	30'48	+2'87	+9

II.—The hot weather period.—The rainfall of the month of March was confined practically to north-west and north-east India, though there was some local falls, at a few southern stations.

Thunderstorms and feebly disturbed weather gave light, to moderate rain during the month to the south-west of the Peninsula, to west Ceylon and to the south of Tenasserim. In north-west India the rain was due to the occurrence of a series of storms of the cold weather type and in

north-east India to the occurrence of thunderstorms and duststorms or nor'-westers.

The chief periods of rainfall were :—

- (1) The 3rd to the 7th, when showers fell over north-west India and Kashmir, and thundershowers occurred over north-east India.
- (2) The 9th to the 13th, when heavy snow fell in Kashmir and rain and snow in Baluchistan, the west Himalayas and sub-Himalayas and occasional thundershowers in north-east India.
- (3) The 18th to the end of the month, during which Kashmir received almost daily snow, and showers of rain or snow were frequent over Baluchistan, the west Himalayas and the submontane districts.
- (4) The 21st and 22nd, when thundershowers fell over north-east India.
- (5) The 24th to the 28th, when thundershowers again occurred in the north-east.

The disturbed character of the weather over the north-west Himalayas is clearly shown by the days of snowfall and rainfall during the month. These numbered 15 at Kailang, 20 at Nimarg 21 at Sonemarg, 15 at Srinagar 15 at Murree and 10 at Quetta.

The total rainfall of the month was less than 6'10" in amount in 30 of the rainfall divisions including the inland parts of Burma (except Upper Burma), Bihar, the United Provinces (except the west and hill divisions), the south-east Punjab, and the greater part of the Peninsula and the central parts of the country. From this area of light rainfall the amount increased and amounted to 7'63 inches in the Surma division of Assam, and to 6'56 inches in the hill division of the Punjab.

The total rainfall of the month was more than 25% in excess in Upper Burma (+61%), East Bengal (+44%), Assam Hills (+27%), Deltaic Bengal (+37%), Central Bengal (+48%), United Provinces Hills (+55%), South Punjab (+85%), Central Punjab (+109%), Punjab Submontane (+154%), Punjab Hills (+139%), North-West Frontier Province (+77%), West Punjab (+92%), Kathiawar and Cutch (+500%), Baluchistan Hills (+145%), and West Rajputana (314%).

The month of April was drier than usual over by far the greater part of India. In Persia, northern Arabia, and Afghanistan the weather during the month was more disturbed and rainy than usual, and this unsettled weather extended through Baluchistan into the West Punjab. Local thunderstorms about the 6th and 7th gave moderately heavy rain to south Bihar and Chota Nagpur. Moderate to heavy snow fell on the higher ranges of the north-west Himalayas.

The total rainfall of the month was actually or practically nil i.e., less than one-tenth of an inch) over Deltaic and Central Burma, North Bihar, all the divisions of the United Provinces except the hills, the South-East and South Punjab, the Konkan, Khandesh, Berar, the west and central divisions of the Central Provinces, Gujarat, Kathiawar, Sind, all the divisions of central India and of Rajputana, and the central division of the east coast. Away from these areas the amount of rainfall increased, but the average actual rainfall was less than one inch in total amount

over all parts of the country with the exception of the areas for which comparative data are given below :—

DIVISION.	RAINFALL.				NUMBER OF RAINY DAYS.	
	Average actual, April 1903.	Average normal, April.	Departure of actual from normal, April 1903.	Percentage departure from normal.	Average actual, April, 1903.	Average normal, April.
	Inches.	Inches.	Inches.			
Tenasserim	1'15	3'99	-2'84	- 71	1'2	5'0
Assam Surma	8'34	13'07	-4'73	- 36	8'3	12'2
Assam Hills	3'82	8'00	-4'18	- 52	4'5	9'0
Assam Brahmaputra . .	5'05	8'09	-3'04	- 38	8'8	11'5
Deltaic Bengal	1'15	2'30	-1'15	- 50	2'3	3'5
Bengal Hills	1'78	4'35	-2'57	- 59	3'4	8'4
Chota Nagpur	1'29	0'86	+0'43	+ 50	3'1	1'7
North-West Frontier Province	1'17	1'47	-0'30	- 20	3'7	3'0
Travancore	5'47	...	...	...	7'9	...
Baluchistan Hills	1'60	0'50	+1'10	+220	5'0	1'3
Madras, South	1'52	2'22	-0'70	- 32	3'2	3'4

The heaviest rainfall was reported from the Surma valley of Assam but even there it was only about two-thirds of the normal amount, and in the following large number of divisions the rainfall of the month was more than 90% below the normal:—

DIVISION.	RAINFALL.				NUMBER OF RAINY DAYS.	
	Average actual, April 1903.	Average normal, April.	Departure of actual from normal, April 1903.	Percentage departure from normal.	Average actual, April 1903.	Average normal, April.
	Inch.	Inches.	Inches.			
Lower Burma, Deltaic . .	0'05	1'83	-1'78	- 97	0'1	2'5
Central Burma	0'02	0'95	-0'93	- 98	0	1'7
North Bengal	0'35	3'97	-3'62	- 91	0'5	5'1
„ Bihar	0'07	0'81	-0'74	- 91	0'2	1'3
South Oudh	0	0'10	-0'10	-100	0	0'3
North „	0	0'17	-0'17	-100	0	0'4
United Provinces, Central. . . .	0	0'09	-0'09	-100	0	0'3
United Provinces, West . .	0	0'16	-0'16	-100	0	0'5
„ „ East	0	0'25	-0'25	-100	0	0'5
„ Submontane. . . .	0'02	0'32	-0'30	- 94	0'1	0'8
United Provinces, West Submontane. . . .	0'01	0'18	-0'17	- 94	0	0'6
South-East Punjab						

DIVISION.	RAINFALL.				NUMBER OF RAINY DAYS.	
	Average actual, April 1903.	Average normal, April.	Departure of actual from normal, April 1903.	Percentage departure from normal.	Average actual, April 1903.	Average normal, April.
	Inch.	Inch.	Inch.			
Khandesh	0	0'13	-0'13	-100	0	0'3
Gujarat	0	0'02	-0'02	-100	0	0'1
Kathiawar and Cutch . .	0	0'03	-0'03	-100	0	0'1
Rajputana, East and Central India, West, West Rajputana	0	0'11	-0'11	-100	0	0'3
Madras East Coast, Central	0'02	0'46	-0'44	- 96	0	0'9

The weather was, on the whole, more disturbed than usual during May, but the thunderstorms and nor-westerers in Assam and Bengal, though apparently as numerous as usual, gave less rain than the average.

The total rainfall of the month was so light as to average less than 0'25" in the following divisions:—

DIVISION.	RAINFALL.			
	Average actual, May 1903.	Average normal, May.	Departure of actual from normal, May 1903.	Percentage departure from normal.
	Inch.	Inch.	Inch.	
United Provinces, East . .	0'10	0'48	-0'38	-79
South Oudh	0'09	0'52	-0'43	-83
United Provinces, Central . .	0'17	0'36	-0'19	-53
Kathiawar and Cutch . .	0'22	0'24	-0'02	- 8
Sind	0'07	0'10	-0'03	-30
West Rajputana	0'20	0'31	-0'11	-35

In twenty-eight out of the fifty-seven divisions the rainfall was lighter than usual. These twenty-eight divisions included all the Burma divisions, the Assam divisions, the Bengal divisions except Chota Nagpur, those of the United Provinces except North Oudh, and those of the South-East and South Punjab, Kathiawar and Cutch, Sind and West Rajputana. The deficiency exceeded 50 per cent. in the divisions for which data are given below :—

DIVISION.	RAINFALL.			
	Average actual, May 1903.	Average normal, May.	Departure of actual from normal, May 1903.	Percentage departure from normal.
	Inches.	Inches.	Inches.	
South Bihar	0'39	1'41	-1'02	-72
North Bihar	1'18	3'02	-1'84	-61
United Provinces, East . .	0'10	0'48	-0'38	-79
South Oudh	0'09	0'52	-0'43	-83
United Provinces, Central . .	0'17	0'36	-0'19	-53

Over the whole of the remainder of India the month's rainfall was in excess. The excess was large over the Peninsula and the extreme north-west of India and was more than 100 per cent. in the divisions for which data are given below:—

DIVISION.	RAINFALL.			
	Average actual, May 1903.	Average normal, May.	Departure of actual from normal, May 1903.	Percentage departure from normal.
	Inches.	Inches.	Inches.	
North-West Frontier Province.	1'86	0'85	+1'01	+119
Konkan	7'67	1'48	+6'19	+418
Khandesh	3'02	0'63	+2'39	+379
Berar	1'83	0'42	+1'41	+336
Central Provinces, West.	1'97	0'42	+1'55	+369
„ „ Central	1'73	0'48	+1'25	+260
Gujarat	0'45	0'22	+0'23	+103
Baluchistan Hills . .	0'73	0'20	+0'53	+265
Madras East Coast, Central	4'65	1'28	+3'37	+263
„ South	4'93	2'17	+2'76	+127

The chief features of the rainfall of the period were as follows:—

- (1) General deficiency over Burma, Assam, the province of Bengal, the United Provinces, the South-East and South Punjab, most marked relatively to the normal in the South-East Punjab and the United Provinces which areas received less than half their normal amounts. The following gives data in illustration:—

AREA.	RAINFALL OF PERIOD, MARCH TO MAY.			
	Average actual, 1903.	Average normal.	Departure from normal.	Percentage departure from normal.
	Inches.	Inches.	Inches.	
Burma	8'54	14'23	—5'69	—40
Assam	21'27	30'94	—9'67	—31
Bengal	5'07	8'29	—3'22	—39
United Provinces of Agra and Oudh.	0'56	1'22	—0'66	—54
South-East Punjab . .	0'37	1'07	—0'70	—65
South Punjab	1'07	1'10	—0'03	—3

- (2) Slight to moderate excess in the Central, Submontane and West Punjab, the Punjab Hills, the North-West Frontier Province, Gujarat, Kathiawar and Cutch and West Rajputana and large excess in Baluchistan which obtained a total fall of 5'15 inches as compared with 1'85 inches, the normal of the period. The following gives data for these areas:—

AREA.	RAINFALL OF PERIOD, MARCH TO MAY.			
	Average actual, 1903.	Average normal.	Departure from normal.	Percentage departure from normal.
	Inches.	Inches.	Inches.	
Central Punjab . . .	2'84	2'01	+0'83	+41
Punjab Submontane .	3'88	2'62	+1'26	+48
West Punjab	2'06	1'33	+0'73	+55
Punjab Hills	9'58	6'84	+2'74	+40
North-West Frontier Province.	6'67	4'38	+2'29	+52
Gujarat	0'45	0'25	+0'20	+80
Kathiawar and Cutch .	0'34	0'29	+0'05	+17
West Rajputana . . .	0'49	0'44	+0'05	+11
Baluchistan Hills . .	5'15	1'85	+3'30	+173

- (3) Slight deficiency in Sind, Central India East, and Rajputana East and Central India West, as shown below:—

AREA.	RAINFALL OF PERIOD, MARCH TO MAY.			
	Average actual, 1903.	Average normal.	Departure from normal.	Percentage departure from normal.
	Inch.	Inch.	Inch.	
Sind	0'31	0'39	—0'08	—21
Central India, East . .	0'45	0'51	—0'06	—12
Rajputana, East and Central India, West.	0'51	0'74	—0'23	—31

- (4) General excess over the Peninsula except locally in Central Provinces East, Malabar, Madras South and East Coast North where the rainfall of the period was from 5 to 13 per cent. in defect of the normal. The excess was greatest, both absolutely and relatively to the normal in the

Konkan (5'72 inches or 287 per cent.). The following gives data for the region of excessive rainfall in the Peninsula:—

AREA.	RAINFALL OF PERIOD MARCH, TO MAY.			
	Average actual, 1903.	Average normal,	Departure from normal.	Percentage departure from normal.
	Inches.	Inches.	Inches.	
Berar	1'89	0'98	+0'91	+ 93
Central Provinces, West	2'02	0'98	+1'04	+106
" " Central	1'81	1'29	+0'52	+ 40
Konkan	7'71	1'99	+5'72	+287
Bombay Deccan	3'35	3'10	+0'25	+ 8
Khandesh	3'02	0'83	+2'19	+264
Hyderabad, North	1'72	1'53	+0'19	+ 12
" South	2'39	2'12	+0'27	+ 13
Mysore	5'24	5'17	+0'07	+ 1
Madras, South Central	6'88	5'98	+0'90	+ 15
" Central	2'55	2'46	+0'09	+ 4
" East Coast, Central	4'67	1'91	+2'76	+145
" " " South	5'22	3'38	+1'84	+ 54

- (5) The average rainfall of the period for the whole of the plains of India was 3'79 inches and was 0'67 inch or 15 per cent. in defect of the normal of the period.

III.—The south-west monsoon period.—The following is a brief account of the more important features of rainfall, firstly for the two periods into which the whole season may be divided, *vis.*, June and July, and August and September, and secondly for the whole period.

(a) *The first half of the period* (June and July).

June.—Little or no rain fell over the Malabar and south Kanara coast districts between the 1st and 10th as the usual thundershowers were almost altogether absent. On the 10th the barometer was falling briskly in Malabar and on the 11th rains set in over the whole of the west coast to the south of Goa. On the 12th and 13th a storm formed in the east of the Arabian Sea in front of the advancing monsoon current and travelled north-westward during the next two days. Heavy rain followed in the wake of the storm reaching Bombay by the 15th. During this period the winds were generally southerly along the west coast and the rainfall did not properly extend inland into the Deccan and the Central Provinces though on the 17th and 18th rain occurred locally over those areas and over the United Provinces. Monsoon rainfall decreased considerably on the 20th, 21st and 22nd, but on the 23rd another advance of monsoon winds occurred along the west coast and the weather was showery over the interior. On the 26th, the monsoon current strengthened and carried rain through the Central Provinces into parts of north-west India: but from the 28th to the close of the month the monsoon was again light and interrupted

and though rain occurred daily along the west coast little or none fell over the interior of the country.

Showery weather prevailed over Burma and north-east India during the first half of the month and the monsoon probably commenced in Bengal on the 16th: rain fell heavily over east Bengal on the 18th, but between the 19th and the 24th the rainfall was interrupted and partial. On the latter date a shallow storm appeared at the head of the Bay and advancing north-westward occasioned general rain over Bengal and Bihar on the 26th, 27th and 28th. With the dispersion of this storm on the 29th rainfall diminished so that on the last day of the month it was light and mainly confined to Burma, Assam and east Bengal.

The following gives the dates of the commencement of the south-west monsoon rains of 1903 in different parts of India:—

PROVINCE OR DIVISION.	Date of the commencement of the monsoon rains in 1903.
Malabar	11th June
South Konkan	" "
North Konkan	13th "
Gujarat	7th July
West Rajputana	14th "
East Rajputana	12th "
Central Provinces	25th June
Central India	14th July
Bengal	16th June
Bihar	" "
Chota Nagpur	26th "
United Provinces	12th July
Punjab	13th "

The monsoon was thus about a week late in arriving along the west coast and was light and much interrupted throughout the whole month. The rains began about the normal date in Bengal (16th), but the monsoon current was nearly as weak and interrupted in this area as over western India. Slight advances of monsoon winds carried rain into central and north-western India on different occasions during the latter half of the month but the advances were of a temporary character and it cannot be said that the monsoon was established over central and north-western India throughout the month.

The distribution of the rainfall of the month was thus largely determined by the following factors:—

- (1) The delay in the commencement of the monsoon rains on the west coast.
- (2) The weakness and unsteadiness of the Arabian sea current after its arrival.
- (3) The weakness of the Bay current and its failure to advance, except temporarily, further westward than Bihar.

- (4) The failure of the Arabian Sea current to advance over the central parts of the country and into north-west India.

The total rainfall of the month was more than 20% above the normal in five divisions, *viz.*, Central Burma (+24%), Assam Brahmaputra (+25%), Madras South-Central (+48%), East Coast Central (+31%), and the East Coast South (+23%), and more or less exceeded the normal over Upper Burma, Assam, east and north Bengal, the Bengal Hills, North Bihar, and the east, centre and part of the south of the Peninsula. In all other parts of the country the month's rainfall was less than usual and in the following 22 divisions the deficiency amounted to 50% or more, *viz.*, the east of the United Provinces (−67%), South Oudh (−72%), United Provinces Central (−69%), United Provinces West (−74%), United Provinces West Submontane (−72%), United Provinces Hills (−54%), South-East Punjab (−86%), South Punjab (−80%), Central Punjab (−92%), Punjab Submontane (−88%), Punjab Hills (−67%), North-West Frontier Province (−68%), Khandesh (−54%), Central Provinces Central (−50%), Central Provinces East (−56%), Gujarat (−83%), Kathiawar and Cutch (−84%), Sind, (−98%), Baluchistan Hills (−63%), Central India East (−75%), Rajputana East and Central India West (−74%), and West Rajputana (−97%).

July.—During the first eleven days of the month the monsoon was light on both sides of India and little or no rain fell over northern India and the north of the Central Provinces.

On the 12th a depression appeared over the north-west of the Bay, and an extension of rain occurred. On the 14th another depression appeared off the Bombay coast and a further extension of rain resulted, so that from the 15th to the 24th fairly general, though on the whole not heavy rain was received throughout the country. On the 24th rain to a great extent ceased over northern India and from that date to the close of the month the rainfall was generally confined to the Peninsula, Burma, north-east India and the extreme north-west, while the Gangetic plain and the adjacent parts of Central India, the Central Provinces and west Bengal were practically rainless.

The distribution of rain during the month was mainly determined by the following features:—

- (1) The feebleness of the monsoon currents during the first eleven days of the month.
- (2) The apparent diversion of the Bay current to the Burma coast.
- (3) The increased easting of the winds over Bengal.

The total rainfall of the month was more or less below the normal over:—

- (1) the greater part of Burma;
- (2) Bengal, Assam and the United Provinces;
- (3) parts of the Central Provinces and of Central India.

The deficiency was greatest over a large area extending from Central Bengal westward through Chota Nagpur and Bihar as far as the west of the United Provinces, but was also large in Upper Burma. It amounted to over 40% in the divisions for which data are given below:—

AREA.	RAINFALL.			
	Average actual, July 1903.	Average normal, July.	Departure from normal.	Percentage departure from normal.
	Inches.	Inches.	Inches.	
Upper Burma	3'28	6'66	−3'38	−51
Eastern Bengal	9'59	17'93	−8'39	−47
Deltaic „	6'80	12'00	−5'20	−43
Central „	5'47	12'32	−6'85	−56
South Bihar	2'87	12'74	−9'87	−77
North „	4'95	13'56	−8'60	−63
United Provinces, East	3'30	11'80	−8'50	−72
South Oudh	4'68	10'96	−6'28	−57
North „	4'69	12'27	−7'58	−62
United Provinces, Central	4'28	11'00	−6'72	−61
„ „ West	4'82	8'51	−3'69	−43
„ „ East Submontane	6'18	12'95	−6'77	−52
„ „ Hills	8'32	17'75	−9'43	−53

The rainfall of the month was, on the other hand, in excess over the greater part of the Punjab, the Peninsula, Berar, north Bombay and Rajputana and was more than 40% in excess of the normal in the following divisions, *viz.*, South Punjab (+41%), West Punjab (+56%), Malabar (+50%), Mysore (+44%), Berar (+57%), West Rajputana (+78%), East Coast North (+66%), Madras Central (+62%) and East Coast Central (+41%).

The following summarizes the chief features in the rainfall distribution of June and July:—

- (1) The rainfall of the period was below the normal over practically the whole of the field of the Bay current, as is shown by the following data:—

AREA.	RAINFALL OF PERIOD, JUNE AND JULY.			
	Average actual, 1903.	Average normal.	Departure from normal.	Percentage departure from normal.
	Inches.	Inches.	Inches.	
Burma	45'07	50'32	−5'25	−10
Assam	38'84	38'74	+0'10	0
Bengal	25'84	31'08	−5'24	−17
Orissa	20'53	21'31	−0'78	−4
Chota Nagpur	14'20	23'66	−9'46	−40
Bihar	10'70	21'08	−10'38	−49
United Provinces of Agra and Oudh.	7'47	16'77	−9'30	−55
Punjab	6'05	6'83	−0'78	−11

The deficiency was hence serious in Bihar, Chota Nagpur and the United Provinces :—

- (2) On the other hand in the field of the Bombay current the rainfall of the period was in excess everywhere except in the districts forming its northern limits *viz.*, Gujarat, Rajputana, Central India, Khandesh and the Central Provinces. The following gives data in illustration :—

AREA.	RAINFALL OF PERIOD, JUNE AND JULY.			
	Average actual, 1903.	Average normal.	Departure from normal.	Percentage departure from normal.
	Inches.	Inches.	Inches.	
Berar	18'43	15'02	+ 3'41	+ 23
Central Provinces	18'93	23'30	—4'37	—19
Rajputana	7'57	8'26	—0'69	— 8
Central India	11'21	17'84	—6'63	—37
Konkan	68'31	67'17	+ 1'14	+ 2
Bombay Deccan	15'31	14'81	+ 0'50	+ 3
Khandesh	12'25	14'41	—2'16	—15
Gujarat	21'45	23'32	—1'87	— 8
Kathiawar and Cutch	15'23	14'89	+ 0'34	+ 2
Sind	3'02	2'81	+ 0'21	+ 7
Hyderabad	15'58	11'79	+ 3'79	+ 32
Mysore	14'18	10'68	+ 3'50	+ 33
Madras	17'06	14'71	+ 2'35	+ 16

(b) *Second half of the period (August and September).*

August.—The monsoon was, on the whole, weak along the west coast during this month and the rainfall normal or slightly below the normal over the west and centre of the Peninsula. On the other hand, the Bay monsoon was strong and daily rain fell over Burma and north-east India. Between the 1st and the 6th a storm passed from the Bay to the United Provinces and rain was fairly general, except over the interior and east of the Peninsula. Between the 7th and the 9th a slight depression was shown over the United Provinces, but during this time the monsoon was light along the west coast, so that, though rain was general over eastern and north-eastern India, there was very little over the Peninsula or north-west India. From the 10th to the 15th the distribution of pressure was such that the monsoon was directed towards the Himalayas and while little rain was received over the plains, heavy and fairly continuous rain fell over and near the foot of the

hills from the Punjab to Assam. On the 16th a depression appeared over the Bay and thence passed into the Central Provinces. Rain was light on the 16th and 17th, when the depression was developing over the Bay, but increased on the 18th and fell fairly generally, except in the north-west, until the 21st. On the 22nd and 23rd the disturbance filled up and the rainfall was light generally. On the 24th a depression appeared over the United Provinces, and between that date and the 27th the rainfall again increased. The depression filled up on the 28th, rain immediately decreasing, but on the 29th another disturbance appeared, and from that date to the close of the month rain occurred in most places, except in the north-west.

The general distribution of rain was hence largely determined by the following conditions :—

- (1) The weakness of the west coast or Arabian Sea monsoon current, which, except during the periods of disturbance, was below its normal strength.
- (2) The abnormal pressure conditions between the 10th and 15th, which determined heavy rain to the montane and submontane regions at the expense of the plains.
- (3) The frequency of storms over the Bay area and central and north-east India.

In 37 out of the 57 divisions the month's rainfall was heavier than usual. These 37 divisions included the coast divisions of Burma, Assam, the east, hills and north divisions of Bengal, North Bihar, the United Provinces, the hills and the west divisions of the Punjab, and most of the central and peninsular divisions. The excess was more than 50 per cent. in the areas for which comparative data are given below :—

DIVISION.	RAINFALL.			
	Average actual, August 1903.	Average normal, August.	Departure of actual from normal, August 1903.	Percentage departure from normal.
	Inches.	Inches.	Inches.	
South Oudh	17'20	11'19	+ 6'01	+ 54
North „	18'40	11'68	+ 6'72	+ 57
United Provinces, East Submontane.	18'53	11'69	+ 6'84	+ 59
Hyderabad, South	10'37	6'55	+ 3'82	+ 58

Over the remainder of India the month's rainfall was in defect of the normal, but the deficiency was not important, except in Upper Burma, the South Punjab, Sind and Baluchistan.

The following gives comparative data for the divisions in which the deficiency amounted to 30 per cent. or over :—

DIVISION.	RAINFALL.			
	Average actual, August 1903.	Average normal, August.	Departure of actual from normal, August 1903.	Percentage departure from normal.
Upper Burma . . .	Inches. 5'01	Inches. 7'28	Inches. -2'27	-31
South Punjab . . .	2'93	4'18	-1'25	-30
Sind	0'11	2'21	-2'10	-95
Baluchistan Hills . .	0'36	0'30	-0'44	-55

The rainfall of the whole Indian region (excluding the hill districts) was 1'24" above the normal.

September.—The general rainfall of India for the month was in excess of the normal. A series of small and slight cyclonic storms was formed over the Bay or deltaic Bengal during the month and thence passed westward or north-westward into the Central Provinces or the Gangetic plain occasioning moderately heavy rain over north-east and central India. At the same time the weather was very disturbed and rainy over the Peninsula though, except between the 15th and the 21st, that area was not directly affected by the storms of the month. The rains continued till about the normal date over north-west India where they ceased about the 13th.

In twenty out of the 57 divisions the rainfall of the month was lighter than usual. These divisions included lower and central Burma, the hills and Brahmaputra divisions of Assam, the central, north and hill divisions of Bengal, both the Bihar divisions, the west of the United Provinces, the South-East Punjab, the greater part of the Bombay Presidency, Berar, West Rajputana and Baluchistan. The deficiency was generally small, but was more than 20% in the divisions for which data are given below :—

DIVISION.	RAINFALL.			
	Average actual, September 1903.	Average normal, September.	Departure of actual from normal, September 1903.	Percentage departure from normal.
Assam Hills	Inches. 13'69	Inches. 18'11	Inches. -4'42	-24
Bengal „	14'64	19'29	-4'65	-24
North Bihar	6'25	10'43	-4'18	-40
United Provinces (West)	3'24	4'33	-1'09	-25
South-East Punjab . .	2'56	3'82	-1'26	-33
Sind	0'27	0'47	-0'20	-43
Baluchistan Hills . .	0'11	0'14	-0'03	-21

The month's rainfall was exactly normal in the Brahmaputra Valley and in Chota Nagpur.

Over the whole of the remainder of India, the rainfall was in excess of the normal. The excess was large over the Peninsula, and parts of northern India, and amounted to more than 50 per cent. in the following divisions :—

DIVISION.	RAINFALL.			
	Average actual, September 1903.	Average normal, September.	Departure of actual from normal, September 1903.	Percentage departure from normal.
	Inches.	Inches.	Inches.	
United Provinces, East	11'57	6'79	+4'78	+70
North Oudh	11'71	7'40	+4'31	+58
United Provinces, East Submontane.	12'19	8'05	+4'14	+51
Central Punjab . . .	3'22	1'92	+1'30	+68
Punjab Submontane . .	7'25	3'54	+3'71	+105
North-West Frontier Province.	2'24	1'36	+0'88	+65
Madras, South-Central .	8'83	4'73	+4'10	+87
Mysore	8'35	4'83	+3'52	+73
Central India, East . .	10'03	6'28	+3'80	+61
Madras, Central . . .	8'03	5'30	+2'73	+52
„ East Coast, South	10'76	5'34	+5'42	+101
„ South	4'38	2'15	+2'23	+104

The total rainfall of the month averaged less than 1'00" in the West Punjab, Sind and Baluchistan.

The following sums up the chief abnormal features of the rainfall distribution in August and September :—

- (1) The rainfall of the period was more or less considerably above the normal in the region usually served by the Bay current.

The following gives data :—

AREA.	RAINFALL OF PERIOD, AUGUST AND SEPTEMBER.			
	Average actual, 1903.	Average normal.	Departure from normal.	Percentage departure from normal.
	Inches.	Inches.	Inches.	
Burma	43'41	40'84	+2'57	+6
Bengal and Assam . .	27'10	25'40	+1'70	+7
United Provinces of Agra and Oudh.	25'37	17'69	+5'68	+32
Punjab	7'64	7'23	+0'41	+6

The only exceptions to the general excess occurred in the following cases :—

AREA.	RAINFALL OF PERIOD, AUGUST AND SEPTEMBER.			
	Average actual, 1903.	Average normal.	Departure from normal.	Percentage departure from normal.
Tenasserim	Inches. 71'07	Inches 73'20	Inches. -2'13	- 3
Central Burma . . .	18'71	19'23	-0'52	- 3
Upper „	13'34	14'76	-1'42	-10
Central Bengal . . .	19'44	21'60	-2'16	-10
Chota Nagpur	19'17	21'93	-2'76	-13
Bihar	18'99	20'94	-1'95	- 9
United Provinces, West.	11'19	12'10	-0'91	- 8
South-East Punjab . .	8'28	10'25	-1'97	-19
South Punjab	5'90	6'53	-0'63	-10

- (2) In the region dominated by the Bombay current the distribution of rainfall in this period was somewhat similar to that of June and July: thus rainfall was in defect in Sind, Kathiawar and Cutch, Khandesh, the Bombay Deccan and the Konkan, and in excess elsewhere.

The following gives data :—

AREA.	RAINFALL OF PERIOD, AUGUST AND SEPTEMBER.			
	Average actual, 1903.	Average normal.	Departure from normal.	Percentage departure from normal.
	Inches.	Inches.	Inches.	
Berar	13'91	12'86	+1'05	+ 8
Central Provinces, West . .	22'13	19'22	+2'91	+15
„ „ Central	26'56	21'83	+4'73	+22
„ „ East	24'43	21'56	+2'87	+13
Rajputana East, Central India, West.	14'54	11'49	+3'05	+27
West Rajputana	5'84	5'40	+0'44	+ 8
Central India, East	21'86	17'49	+4'37	+25
Gujarat	16'46	16'40	+0'06	0
Kathiawar and Cutch . . .	9'48	11'16	-1'68	-15
Sind	0'38	2'68	-2'30	-86
Konkan	36'90	38'32	-1'42	- 4
Bombay Deccan	10'33	11'83	-1'50	-13
Khandesh	12'55	12'91	-0'36	- 3
Hyderabad, North	17'89	16'19	+1'70	+11
„ South	18'88	13'40	+5'48	+41
Mysore	14'24	9'92	+4'32	+44
Malabar	30'90	29'62	+1'28	+ 4

AREA.	RAINFALL OF PERIOD, AUGUST AND SEPTEMBER.			
	Average actual, 1903.	Average normal.	Departure from normal.	Percentage departure from normal.
Madras, South Central . . .	Inches. 13'74	Inches. 8'37	Inches. +5'37	+64
„ East Coast, North. . .	19'18	15'09	+4'09	+27
„ Central.	12'82	9'42	+3'40	+36
„ East Coast, Central . .	9'88	7'90	+1'98	+25
„ „ South	16'16	10'33	+5'83	+56
„ South	6'30	3'77	+2'53	+67

The following gives the chief features of the distribution of rainfall of the whole monsoon period, June to September :—

- (1) The rainfall of the period was practically normal (*i.e.*, differed by less than 10 per cent. from the normal) over a large part of the country, including the Central Provinces, Khandesh, the Bombay Deccan, Konkan, Malabar, Gujarat, Kathiawar and Cutch, Central India, East Rajputana, South and Central Punjab, Oudh, the eastern submontane districts of the United Provinces, Orissa, Bengal (excepting the central division), Assam Brahmaputra and Hills, and the whole of Burma, with the exception of Upper Burma.

The following gives data for these areas :—

AREA.	RAINFALL OF PERIOD, JUNE TO SEPTEMBER.				RAINFALL OF PERIOD, JUNE TO OCTOBER.			
	Average actual, 1903.	Average normal.	Departure from normal.	Percentage departure from normal.	Average actual, 1903.	Average normal.	Departure from normal.	Percentage departure from normal.
	Inches.	Inches.	Inches.		Inches.	Inches.	Inches.	
Tenasserim	151'85	155'11	-3'25	- 2	166'87	165'06	+1'81	+ 1
Lower Burma, Deltaic.	79'08	82'28	-3'20	- 4	87'89	88'47	-0'58	- 1
Central Burma	43'84	41'96	+1'88	+ 4	50'04	46'55	+3'49	+ 7
Upper „	24'31	27'95	-3'64	-13	31'18	32'39	-1'21	- 4
Arakan	143'28	148'52	-5'24	- 4	155'48	157'02	-1'54	- 1
Eastern Bengal	60'97	63'77	-2'80	- 4	67'44	69'59	-2'15	- 3
Assam Brahmaputra.	63'38	58'15	+5'23	+ 9	69'09	62'70	+6'39	+10
Assam Hills	97'47	98'08	-0'61	- 1	105'71	105'46	+0'25	0
Deltaic Bengal	41'06	44'44	-3'38	- 8	47'56	48'96	-1'40	- 3
North „	81'06	77'61	+3'45	+ 4	87'01	82'36	+4'65	+ 6
Bengal Hills	89'45	89'33	+0'12	0	96'53	93'21	+3'32	+ 4
Orissa	42'93	43'19	-0'26	- 1	54'17	48'89	+5'28	+11
South Oudh.	30'11	33'47	-3'06	- 9	43'37	35'13	+8'24	+23
North „	37'90	37'07	+0'83	+ 2	51'31	38'86	+12'45	+32
United Provinces, East Submontane	42'42	39'25	+3'17	+ 8	55'50	42'19	+13'31	+32
South Punjab	12'70	13'19	-0'49	- 4	12'84	13'35	-0'51	- 4

AREA.	RAINFALL OF PERIOD, JUNE TO SEPTEMBER.				RAINFALL OF PERIOD, JUNE TO OCTOBER.			
	Average actual, 1903.	Average normal.	Departure from normal.	Percentage departure from normal.	Average actual, 1903.	Average normal.	Departure from normal.	Percentage departure from normal.
Central Punjab	13.73	13.54	+ 0.19	+ 1	13.93	13.79	+ 0.14	+ 1
Central Provinces, West.	40.88	39.73	+ 1.15	+ 3	43.67	41.51	+ 2.16	+ 5
Central Provinces, Central.	46.24	46.24	0	0	51.46	47.91	+ 3.55	+ 7
Central Provinces, East.	42.78	46.53	- 3.75	- 8	48.06	48.57	- 0.51	- 1
Central India, East	33.07	35.33	- 2.26	- 6	37.65	36.31	+ 1.34	+ 4
Rajputana East, Central India, West.	22.74	22.74	0	0	23.88	22.94	+ 0.94	+ 4
Gujarat	37.91	39.72	- 1.81	- 5	38.00	40.76	- 2.76	- 7
Kathiawar and Cutch.	24.71	26.05	- 1.34	- 5	25.02	26.64	- 1.62	- 6
Konkan	105.21	105.49	- 0.28	0	110.35	109.97	+ 0.38	0
Bombay Deccan	25.64	26.64	- 1.00	- 4	29.63	31.06	- 1.43	- 5
Khandesh	24.80	27.32	- 2.52	- 9	27.13	29.24	- 2.11	- 7
Malabar	107.06	100.61	+ 6.45	+ 6	118.12	109.95	+ 8.17	+ 7

- (2) The rainfall of the period was in slight excess in Assam Surma, Hyderabad North, and Berar and in moderate to large excess in West Punjab, West Rajputana, Mysore, Hyderabad South and the whole of Madras, as is shown by the following data :—

AREA.	RAINFALL OF PERIOD, JUNE TO SEPTEMBER.				RAINFALL OF PERIOD, JUNE TO OCTOBER.			
	Average actual, 1903.	Average normal.	Departure from normal.	Percentage departure from normal.	Average actual, 1903.	Average normal.	Departure from normal.	Percentage departure from normal.
Assam Surma	92.43	81.73	+ 10.70	+ 13	98.99	88.31	+ 10.68	+ 12
Berar	32.34	27.88	+ 4.46	+ 16	35.37	29.61	+ 5.76	+ 19
Hyderabad, North	34.48	30.01	+ 4.47	+ 15	41.11	32.60	+ 8.51	+ 26
„ South	33.45	23.16	+ 10.29	+ 44	44.15	26.12	+ 18.03	+ 69
West Punjab	7.90	6.22	+ 1.68	+ 27	7.90	6.28	+ 1.62	+ 26
West Rajputana	12.77	10.67	+ 2.10	+ 20	12.77	10.74	+ 2.03	+ 19
Mysore	28.42	20.60	+ 7.82	+ 38	34.28	26.10	+ 8.18	+ 31
Madras, South Central.	19.08	12.20	+ 6.88	+ 56	24.55	18.44	+ 6.11	+ 33
Madras, East Coast North.	37.23	27.53	+ 9.70	+ 35	43.92	34.56	+ 9.36	+ 27
Madras, Central	20.09	14.81	+ 5.28	+ 36	24.17	19.65	+ 4.52	+ 23
Madras, East Coast Central.	15.26	11.82	+ 3.44	+ 29	20.33	20.50	- 0.17	- 1
Madras, East Coast South.	21.41	14.91	+ 6.50	+ 44	26.20	23.17	+ 3.03	+ 13
Madras, South	8.26	5.60	+ 2.66	+ 48	12.72	12.41	+ 0.31	+ 2

- (3) The rainfall of the period was considerably below the normal in South Bihar, Sind and Baluchis-

tan, moderately below in the western and central districts of the United Provinces, Chota Nagpur, the South-East Punjab and Central Bengal and slightly below in Upper Burma, North Bihar, the east of the United Provinces, the Punjab Hills and the North-West Frontier Province. The following gives data :—

AREA.	RAINFALL OF PERIOD, JUNE TO SEPTEMBER.				RAINFALL OF PERIOD, JUNE TO OCTOBER.			
	Average actual, 1903.	Average normal.	Departure from normal.	Percentage departure from normal.	Average actual, 1903.	Average normal.	Departure from normal.	Percentage departure from normal.
Upper Burma	24.31	27.95	- 3.64	- 13	31.18	32.39	- 1.21	- 4
Central Bengal	33.58	44.43	- 10.85	- 24	40.44	47.95	- 7.51	- 16
Chota Nagpur	33.37	45.59	- 12.22	- 27	43.28	48.40	- 5.12	- 13
South Bihar	23.08	38.85	- 15.77	- 41	29.11	41.35	- 12.24	- 30
North „	36.29	45.18	- 8.89	- 20	41.53	47.84	- 6.31	- 13
United Provinces, East.	30.04	35.00	- 4.96	- 14	43.50	37.39	+ 6.11	+ 16
United Provinces, Central.	24.07	31.51	- 7.44	- 24	34.53	39.57	- 5.04	- 13
United Provinces, West.	16.74	23.28	- 6.54	- 28	21.43	23.69	- 2.26	- 10
United Provinces, West Submontane.	34.32	41.63	- 7.31	- 18	39.47	42.38	- 2.91	- 7
United Provinces, Hills.	42.70	52.13	- 9.43	- 18	46.15	53.57	- 7.42	- 14
South-East Punjab	14.64	19.09	- 4.45	- 23	15.07	19.32	- 4.25	- 22
Punjab Hills	36.75	43.02	- 6.27	- 15	37.09	43.76	- 6.67	- 15
North-West Frontier Province.	8.09	9.43	- 1.34	- 14	8.24	9.74	- 1.50	- 15
Sind	3.40	5.49	- 2.09	- 38	3.40	5.51	- 2.11	- 38
Baluchistan Hills.	1.39	2.10	- 0.71	- 34	1.39	2.16	- 0.77	- 36

- (4) The rainfall of the period, June to October, averaged 39.69 inches for the whole of India and was 2.11 or 6 per cent. in excess of the normal.

IV.—The retreating south-west monsoon period.—During October the north-east (or retreating south-west) monsoon was never properly established over the Bay, and the principal rainfall of the month was attributable to two cyclonic storms, the first of which passed from the head of the Bay into the Gangetic plain and the second travelled from the south-west of the Bay into Orissa.

Both storms were accompanied with a strong advance of southerly winds up the Bay and both occasioned heavy rain in their neighbourhoods. On the other hand monsoon winds collapsed over the Arabian Sea early in the month and little rain, beyond light scattered showers, was received over the west of the Peninsula after the first week, and practically none over north-west India throughout the month.

The distribution of rain during the month was hence determined mainly by the paths of the two cyclonic

storms of the month. The total rainfall of the month was in large to very large excess over :—

(1) The greater part of Burma.

(2) Bengal, the United Provinces, the Central Provinces, Central India and eastern Rajputana.

It was in defect over :—

(1) The greater part of the Punjab.

(2) The North-West Frontier Province.

(3) North Bombay.

(4) The east of the Peninsula.

The excess was greatest over the United Provinces and neighbouring regions and amounted to more than 100 per cent in the following divisions :—

DIVISION.	RAINFALL.			
	Average actual, October 1903.	Average normal, October.	Departure of actual from normal, October 1903.	Percentage departure from normal.
	Inches.	Inches.	Inches.	
Chota Nagpur	8'86	2'80	+ 6'06	+ 216
South Bihar	6'05	2'52	+ 3'53	+ 140
United Provinces, East	13'46	2'39	+ 11'07	+ 463
South Oudh	12'96	1'66	+ 11'30	+ 681
North „	13'41	1'79	+ 11'62	+ 649
United Provinces, Central	10'46	1'06	+ 9'40	+ 887
„ „ West	4'69	0'41	+ 4'28	+ 1044
„ „ East Submontane	13'08	2'94	+ 10'14	+ 345
„ „ West „	5'15	0'75	+ 4'40	+ 587
„ „ Hills	3'45	1'44	+ 2'01	+ 140
Central Provinces, Central	5'22	1'67	+ 3'55	+ 213
„ „ East	5'24	2'04	+ 3'20	+ 157
Central India, East	4'58	0'98	+ 3'60	+ 367
Rajputana East, Central India, West.	1'14	0'20	+ 0'94	+ 470

The relative deficiency was greatest in the north-west of India, but was considerable along the Madras coast. It amounted to more than 40 per cent. in the following divisions :—

DIVISION.	RAINFALL.			
	Average actual, October 1903.	Average normal, October.	Departure of actual from normal, October 1903.	Percentage departure from normal.
	Inches.	Inches.	Inches.	
Punjab Hills	0'34	0'74	— 0'40	— 54
„ West	0	0'06	— 0'06	— 100
N.-W. F. Province	0'15	0'31	— 0'16	— 52
Gujarat	0'09	1'04	— 0'95	— 91
Kathiawar and Cutch	0'31	0'59	— 0'28	— 47
Sind	0	0'02	— 0'02	— 100
Baluchistan Hills	0	0'06	— 0'06	— 100
West Rajputana	0	0'07	— 0'07	— 100
Madras East Coast, Central	5'07	8'68	— 3'61	— 42
„ „ South	4'79	8'26	— 3'47	— 42

The total rainfall of the month was in excess of the normal in 35 divisions, in defect in 19, and the total departure for the whole country (excluding the hill divisions) was + 2'16".

November.—Except for a few scattered showers on and near the hills in the extreme north-west, the month was rainless over the whole area lying to the north and west of a line joining Raṭnagiri on the west coast to Dhubri in the Assam valley. To the south and east of the above line rain was, on the contrary, general and in places heavy. The distribution of rain during the month and over different parts of the country was interesting and peculiar. Between the 1st and the 4th the moisture was directed towards north-east India and heavy rain fell there; on the 5th, the direction of the air currents changed and heavy rain was received over Madras from that date to about the 15th. About the latter date rain abruptly ceased over the Peninsula and general rain fell over Burma. On the 26th rain suddenly recommenced over the Peninsula.

The month's rainfall was largely above the normal over the southern half of the Peninsula, over Burma and over Assam and east Bengal, but was less than usual elsewhere.

The excess was more than 100 per cent. in the divisions, for which comparative data are given below :—

DIVISION.	RAINFALL.			
	Average actual, November 1903.	Average normal, November.	Departure of actual from normal, November 1903.	Percentage departure from normal.
	Inches.	Inches.	Inches.	
Arakan	4'63	1'52	+ 3'11	+ 205
Eastern Bengal	2'33	1'01	+ 1'32	+ 131
Assam, Surma	3'66	1'26	+ 2'40	+ 190
„ Hills	4'06	1'12	+ 2'94	+ 263
„ Brahmaputra	1'10	0'47	+ 0'63	+ 134
Mysore	8'22	2'56	+ 5'66	+ 221
Madras, South Central	8'75	3'84	+ 4'91	+ 128
Madras East Coast, North	5'44	2'71	+ 2'73	+ 101
Madras, Central	7'90	2'16	+ 5'74	+ 265
Madras East Coast, Central	22'34	8'12	+ 14'22	+ 175

December.—During this month the weather was more disturbed and rainy than usual over the Peninsula and was more disturbed than for many years past over north-west India. The principal periods of rainfall were the 1st to the 7th, when general rain fell over the Peninsula and was very heavy in some areas on the 4th and 5th; the 18th to the 21st, when showers fell over the south of the Peninsula; the 25th to the 28th, when general rain fell over the plains of north-west India and heavy snow on the hills; and the 29th to the 31st, when light to heavy rain fell over the south of the Peninsula. Between the areas of rainfall over north-west India and over the Peninsula there was a

broad tract where no rain fell throughout the month. The month's rainfall was in excess of the average over all the Peninsular divisions, but especially so in the East Coast South where the normal average fall is 4'97" and the actual average fall in the month under review was 13'83". Rain was normal or in excess in the submontane, hill, and west divisions of the Punjab and the North-West Frontier Province, and was deficient or altogether wanting elsewhere.

The rainfall was generally below the normal over Asiatic Turkey, Persia and northern Arabia, but was in excess over the Gulf of Aden.

The following is a summary of the more important features of the rainfall of the period (November and December) :—

- (1) The rainfall of the period was in moderate to large excess in Assam, Eastern Bengal and the greater part of Burma on the one hand and in Madras, South Hyderabad and Mysore on the other. The excess was greatest in actual amount in the central coast districts where it averaged 16'93 inches.

The following gives data for the areas of excessive rainfall :—

AREA.	RAINFALL OF PERIOD, NOVEMBER AND DECEMBER.			
	Average actual, 1903.	Average normal.	Departure from normal.	Percentage departure from normal.
	Inches.	Inches.	Inches.	
Lower Burma	2'77	1'76	+1'01	+57
Central „	2'00	1'26	+0'74	+59
Upper „	2'07	1'61	+0'46	+29
Arakan	4'58	1'93	+2'65	+137
Eastern Bengal	2'38	1'26	+1'12	+89
Assam Surma	3'67	1'61	+2'06	+128
„ Hills	4'07	1'61	+2'46	+153
„ Brahmaputra	1'18	0'93	+0'25	+27
Hyderabad, South	2'32	1'27	+1'05	+83
Mysore	9'06	3'16	+5'90	+187
Malabar	7'07	4'21	+2'86	+68
Madras, South Central	11'28	5'12	+6'16	+120
„ East Coast, North	6'14	3'29	+2'85	+87
„ Central	8'86	2'59	+6'27	+242
„ East Coast, Central	27'12	10'19	+16'93	+166
„ „ „ South	24'51	14'17	+10'34	+73
„ South	10'76	9'82	+0'94	+10

- (2) The rainfall of the period was in marked defect over the remainder of the country including the whole of Rajputana, Central India, the Central Provinces, Bombay, the Punjab plains the United Provinces, Bihar, Chota Nagpur

Orissa, and Bengal (excepting the eastern division). A remarkable feature of the period was the absence of rain over the greater part of northern and central India.

The following gives data :—

AREA.	RAINFALL OF PERIOD, NOVEMBER AND DECEMBER.			
	Average actual, 1903.	Average normal.	Departure from normal.	Percentage departure from normal.
	Inches.	Inches.	Inch.	
Bengal (excluding Eastern Bengal.)	0'20	0'58	-0'38	-66
Orissa	1'31	1'66	-0'35	-21
Chota Nagpur	0'03	0'59	-0'56	-95
Bihar	0	0'30	-0'30	-100
United Provinces of Agra and Oudh.	0'04	0'45	-0'41	-91
Punjab	0'33	0'62	-0'29	-47
Rajputana	0	0'47	-0'47	-100
Central India	0	0'64	-0'64	-100
Central Provinces	0'01	0'73	-0'72	-99
Berar	0	0'85	-0'85	-100
Bombay	0'33	0'64	-0'31	-48

The year.—The rainfall of the year for the whole of India, as determined by the method employed by Mr. Blanford (which gives the normal annual rainfall as 41'09 inches), averaged 1'97 inches above the normal.

The average rainfall of the Indian area, was considerably below the normal in the cold weather, slightly in defect in the hot weather, practically normal in the south-west monsoon and largely in excess in the retreating south-west monsoon period.

The following gives comparative data for the whole of India (excluding Burma and hill divisions) based on the arithmetical means of the actuals and normals for 46 rainfall divisions (irrespective of extent of area) :—

PERIOD.	RAINFALL.			
	Average actual of year 1903.	Average normal of year.	Departure from normal.	Percentage departure from normal.
	Inches.	Inches.	Inches.	
Cold weather	0'68	1'04	-0'36	-35
Hot „	3'79	4'46	-0'67	-15
South-west monsoon	39'69	37'58	+2'11	+6
Retreating south-west monsoon.	2'64	1'71	+0'93	+54
Whole year	46'81	44'79	+2'02	+5

The rainfall was practically normal in amount (*i. e.*, the departure from the normal was less than 10 per cent.) in 25 out of the 51 rainfall districts into which India, omitting Burma, is divided :—

AREA.	RAINFALL.			
	Average actual of year 1903.	Average normal of year.	Departure from normal.	Percentage departure from normal.
	Inches.	Inches.	Inches.	
Eastern Bengal . . .	81'60	89'23	— 7'63	— 9
Deltaic „ . . .	56'68	61'21	— 4'53	— 7
North „ . . .	96'62	100'23	— 3'61	— 4
Bengal Hills . . .	106'93	109'87	— 2'94	— 3
Assam Surma . . .	128'90	130'40	— 1'50	— 1
„ Brahmaputra . . .	89'63	89'51	+ 0'17	0
„ Hills . . .	128'32	136'22	— 7'90	— 6
Orissa . . .	61'34	57'57	+ 3'77	+ 7
United Provinces, Central	34'87	34'76	+ 0'11	0
Central Punjab . . .	17'53	18'60	— 1'07	— 6
Punjab Submontane . . .	31'80	30'20	+ 1'60	+ 5
North-West Frontier Province.	16'87	17'98	— 1'11	— 6
Malabar . . .	135'61	125'51	+ 10'10	+ 8
Konkan . . .	118'79	113'08	+ 5'71	+ 5
Bombay Deccan . . .	34'36	35'67	— 1'31	— 4
Khandesh . . .	30'52	31'01	— 0'49	— 2
Gujarat . . .	38'45	41'45	— 3'00	— 7
Kathiawar and Cutch . . .	25'37	27'47	— 2'10	— 8
Baluchistan Hills . . .	8'20	8'38	— 0'18	— 2
Rajputana East, Central India, West.	24'52	24'91	— 0'39	— 2
Central India, East . . .	38'26	38'33	— 0'07	0
Central Provinces, West	46'06	44'07	+ 1'99	+ 5
„ „ Central	53'69	50'88	+ 2'81	+ 6
„ „ East	50'64	52'05	— 1'41	— 3
Madras, South . . .	29'27	28'55	+ 0'72	+ 3

These districts included Assam, the greater part of Bengal, the Central Provinces, the west Deccan, the west coast, South Madras, Central India, the central districts of the United Provinces, east Rajputana, Gujarat, Kathiawar and Cutch, Central and Submontane Punjab, the North-West Frontier Province and Baluchistan.

The rainfall was in excess by 10 per cent. or more in the 15 rainfall districts for which data are given below :—

AREA.	RAINFALL.			
	Average actual of year 1903.	Average normal of year.	Departure from normal.	Percentage departure from normal.
	Inches.	Inches.	Inches.	
United Provinces, East . . .	43'84	39'83	+ 4'01	+ 10
South Oudh . . .	43'77	37'63	+ 6'14	+ 16
North „ . . .	53'12	42'09	+ 11'03	+ 26
United Provinces, East Submontane.	56'72	45'38	+ 11'34	+ 25
West Punjab . . .	10'40	9'08	+ 1'32	+ 15
Berar . . .	37'61	31'96	+ 5'65	+ 18
West Rajputana . . .	13'38	11'81	+ 1'57	+ 13
Hyderabad, North . . .	44'14	35'67	+ 8'47	+ 24
„ South . . .	49'20	29'78	+ 19'42	+ 65
Mysore . . .	48'61	34'57	+ 14'04	+ 41
Madras, South Central . . .	42'97	30'01	+ 12'96	+ 43
„ East Coast, North	53'75	42'00	+ 11'75	+ 28
„ Central . . .	35'94	24'82	+ 11'12	+ 45
„ East Coast, Central	54'11	33'17	+ 20'94	+ 63
„ „ South	57'63	41'62	+ 16'01	+ 38

The excess was hence most pronounced in Madras, Mysore and Hyderabad where it ranged between 24 and 65 per cent.

The rainfall of the year was between 10 and 25 per cent. in defect in 8 divisions, for which comparative data are given in the following table :—

AREA.	RAINFALL.			
	Average actual of year, 1903.	Average normal of year.	Departure from normal.	Percentage departure from normal.
	Inches.	Inches.	Inches.	
Central Bengal . . .	46'67	56'46	— 9'79	— 17
Chota Nagpur . . .	47'81	54'09	— 6'28	— 12
North Bihar . . .	43'19	53'36	— 10'17	— 19
United Provinces, West . . .	22'22	26'18	— 3'96	— 15
„ „ West Submontane.	42'01	47'61	— 5'60	— 12
„ „ Hills . . .	53'08	64'10	— 11'02	— 17
South Punjab . . .	14'46	16'32	— 1'86	— 11
Punjab Hills . . .	53'44	59'20	— 5'76	— 10

The rainfall of the year was more than 25 per cent. below the normal in the following divisions:—

AREA.	RAINFALL.			
	Average actual of year, 1903.	Average normal of year.	Departure from normal.	Percentage departure from normal.
	Inches.	Inches.	Inches.	
South Bihar	30·25	45·22	— 14·97	— 33
South-East Punjab	15·93	22·18	— 6·25	— 28
Sind	3·87	6·63	— 2·76	— 42

These divisions hence defined the region of greatest deficiency of rainfall during the year.

The rainfall of the year was less than three inches in amount at 15 raingauge stations in north-western India and Baluchistan.

The following gives data for these stations:—

AREA.	Station.	Total annual rainfall.
		Inches.
PUNJAB	Dera Ghazi Khan	2·31
	Naushahro	1·49
SIND	Sehwan	2·44
	Mehar	1·45
	Shikarpur	2·28
	Lindsay	1·55
	Temple Dera	1·80
	Bellput	1·90
	Nuttal	2·00
BALUCHISTAN	Peshi	2·08
	Panir	2·09
	Nari	2·47
	Mittri	2·50
	Mushkof	2·64
RAJPUTANA (JODHPUR STATE)	Dewa	2·73

The data show that the minimum rainfall of the year was 1·45 inches at Mehar in Sind.

Total rainfalls for the year exceeding two hundred inches were received at 11 stations:—

AREA.	Station.	Total annual rainfall.	Normal of year.
		Inches.	Inches.
BURMA	Launglon	246·71	233·24
	Akyab	232·55	193·58
	Amherst	213·79	187·87
ASSAM	Cherrapunji (Police Station). Wahmaulien	398·10	457·80
	Sunamganj	360·27	...
	Lalakhal	237·38	209·68
BENGAL	Baxa	204·86	264·84
	Malcolmpeth	250·01	208·61
BOMBAY	Matheran	269·48	267·53
	Dunkeld Estate	210·16	212·89
COORG		216·61	205·53

Cherrapunji as usual, recorded the largest total amount, viz., 398·10 inches.

The following gives the heaviest falls in 24 hours exceeding 15 inches recorded during the year:—

PROVINCE.	District.	Station.	Date and month.	Rainfall during 24 hours preceding 8 A.M. of date.
				Inches.
		Wahmaulien	9th June	16·35
		Cherrapunji Police Station.	29th "	17·07
			9th July	24·23
			10th "	20·07
ASSAM		Wahmaulien	" "	19·33
	Sylhet	Sunamganj	" "	21·22
		Cherrapunji Police Station.	12th August	17·68
			13th "	17·64

The following gives a statement of the annual departures of the mean rainfall of India (excluding Burma) during the past 29 years:—

YEAR.	NUMBER OR DIVISIONS.			RAINFALL.			
	Fall excessive.	Fall normal.	Fall deficient.	Average actual.	Average normal.	Departure from normal.	Percentage departure.
				Inches.	Inches.	Inches.	
1875	16		8	43'47	41'09	+2'38	+6
1876	6		18	36'60	41'09	-4'49	-11
1877	10		14	36'60	41'09	-4'28	-10
1878	17	1	6	47'43	41'09	+6'34	+15
1879	16	2	6	42'78	41'09	+1'69	+4
1880	13	1	10	39'53	41'09	-1'36	-4
1881	15		9	41'19	41'09	+0'10	0
1882	17	1	6	43'73	41'09	+2'64	+6
1883	11	1	12	40'97	41'09	-0'12	0
1884	12		10	42'82	41'09	+1'73	+4
1885	15		7	42'14	41'09	+1'45	+3
1886	14		8	44'11	41'09	+3'02	+7
1887	11		11	43'51	41'09	+2'42	+6

YEAR.	NUMBER OR DIVISIONS.			RAINFALL.			
	Fall excessive.	Fall normal.	Fall deficient.	Average actual.	Average normal.	Departure from normal.	Percentage departure.
				Inches.	Inches.	Inches.	
1888	10		12	39'55	41'09	-1'54	-4
1889	15		8	43'50	41'09	+2'41	+6
1890	14	1	8	41'77	41'09	+0'68	+2
1891	6		17	37'55	41'09	-3'54	-9
1892	15		8	46'18	41'09	+5'09	+12
1893	22		1	50'16	41'09	+9'07	+23
1894	17		6	47'56	41'09	+6'47	+16
1895	5		17	38'10	41'09	-2'19	-7
1896	7	2	14	36'26	41'09	-4'83	-12
1897	10	2	11	40'94	41'09	-0'15	0
1898	10	3	10	41'52	41'09	+0'43	+1
1899	6		17	29'95	41'09	-11'14	-27
1900	10		13	40'52	41'09	-0'57	-1
1901	5		18	36'96	41'09	-4'13	-10
1902	8		15	39'04	41'09	-2'05	-5
1903	3	4	6	43'06	41'09	+1'97	+5

HEM RAJ.

Concluding Summary.

I.—The cold weather period, January and February, 1903:—The following table gives mean departure data of the more important meteorological elements for the cold weather period, January and February 1903:—

METEOROLOGICAL PROVINCE.	DEPARTURE FROM NORMAL DURING COLD WEATHER PERIOD, JANUARY AND FEBRUARY 1903.							
	Mean pressure.	Mean maximum temperature.	Mean minimum temperature.	Mean aqueous vapour pressure.	Mean humidity.	Mean cloud amount.	Total rainfall.	Percentage departure of rainfall.
	"	°	°	"			Inches	
Burma Coast and Bay Islands.	+ '047	- 0'1	+ 1'2	+ '003	- 3	+ 0'5	+ 0'34	+ 53
Burma Inland . . .	+ '061	- 1'4	- 0'2	...	...	...	- 0'28	- 93
Assam	+ '047	- 1'2	- 1'9	...	...	...	- 0'09	- 4
Bengal and Orissa . .	+ '046	- 0'9	- 0'1	+ '014	+ 1	+ 1'6	+ 0'37	+ 28
Gangetic Plain and Chota Nagpur.	+ '043	+ 0'3	- 1'0	- '021	- 4	+ 0'2	- 0'78	- 59
Upper Sub-Himalayas	+ '049	+ 0'6	- 0'6	- '036	- 7	- 1'1	- 1'93	- 63
Indus Valley and North-West Rajputana.	+ '046	+ 0'8	- 1'9	- '005	- 3	- 1'5	- 0'77	- 75
East Rajputana, Central India and Gujarat	+ '041	- 0'7	- 0'7	- '040	- 6	- 0'7	- 0'36	- 82
Deccan	+ '035	- 0'3	+ 0'8	+ '005	+ 1	+ 0'9	- 0'15	- 29
West Coast	+ '036	- 0'5	+ 0'9	- '027	- 4	+ 0'1	- 0'08	- 19
South India	+ '036	0	+ 2'4	+ '069	+ 6	+ 1'1	+ 0'32	+ 43
Whole India	+ '044	- 0'3	- 0'1	+ '002	- 2	+ 0'2	- 0'36	- 5

The average pressure during the period, as in the previous year, was in slight to moderate excess, varying from + '035 "in the Deccan to + '061 "in Burma Inland: the excess was, on the mean of India, '016 " in January and '068 " in February.

The departures from normal of the temperature for the period were as a rule unimportant. Maximum temperature was in slight defect in Burma Inland and Assam, and elsewhere did not differ by 1° from normal. Minimum temperature was 1°9 in defect in Assam, Indus Valley and North-West Rajputana, was deficient by 1° in the Gangetic Plain and Chota Nagpur, and was 1°2 above normal in the Burma Coast and Bay Islands. Mean day temperature differed appreciably from normal only in Assam where it was deficient by 1°6 and in South India where it was in excess by 1°2, owing to high night temperatures.

It is natural to look for relations between temperature and the amount of cloud and rainfall: the latter was in excess in Burma Coast and Bay Islands, Bengal and Orissa, and South India, and in defect in north-west India. It will be seen that the excess either lowered the day temperature or raised that at night; the deficiency in north-west India

permitted increased radiation at night and so lowered the minimum temperature, while its effect in raising the maximum temperature was also exhibited except in the case of East Rajputana, Central India and Gujarat.

Both vapour pressure and humidity were in defect in north-west India and Chota Nagpur, where rainfall was deficient; they were in excess in South India and in slight excess in Bengal and Orissa, regions where the rainfall was above normal.

The following data will show the similarity of conditions of pressure, temperature and precipitation at Baghdad, Bushire, Quetta and Kashgar with those of the hill stations in upper India: it will be seen that the similarity does not extend to Aden or Leh:—

STATION.	DEPARTURE FROM NORMAL DURING COLD WEATHER PERIOD, JANUARY AND FEBRUARY.							
	Mean 8 A. M. pressure.	Mean maximum temperature.	Mean minimum temperature.	Mean 8 A. M. aqueous vapour pressure.	Mean 8 A. M. humidity.	Mean 8 A. M. cloud amount.	Rainfall.	Percentage departure of rainfall.
	"	°	°	"			Inches.	
Aden	+ '051	- 2'5	- 0'9	- '016	0	+ 0'6	+ 3'77	+ 618
Baghdad	+ '058	- 3'5	+ 0'4	- '036	0	0	+ 1'80	- 51
Bushire	+ '075	- 1'9	- 2'5	- '065	- 7	...	- 4'97	- 91
Quetta	+ '051	- 1'5	- 2'7	- '008	+ 11	- 1'0	- 2'03	- 48
Kashgar . . . . .	...	- 0'2	- 4'4	...	...	- 3'5	- 0'30	- 77
Leh	+ '043	- 1'8	- 0'6	+ '004	- 2	- 0'3	+ 0'88	+ 133
Murree	+ '038	- 1'0	- 1'9	+ '003	- 1	- 1'6	- 1'86	- 25
Simla	+ '043	+ 1'3	+ 0'5	- '006	0	- 0'7	- 2'04	- 36
Chakrata	+ '033	+ 0'9	- 0'7	- '012	- 4	- 0'7	- 3'29	- 41
Ranikhet	+ '050	- 1'7	- 0'4	- '034	- 8	- 1'0	- 2'34	- 47

The following table gives comparative data for the cold weather periods of the years 1876 to 1903 for the area including the Punjab, Rajputana, the United Provinces and Bihar:—

COLD WEATHER PERIOD OF YEAR.	DEPARTURE FROM NORMAL IN NORTH-WESTERN INDIA AND BIHAR OF				
	Pressure.	Temperature.	Humidity.	Cloud.	Rainfall.
	"	°			Inches.
1876	- '044	+ 0'5	?	- 0'7	- 1'03
1877	+ '062	- 1'7	+ 13	+ 1'0	+ 2'45
1878	+ '034	- 0'2	+ 4	+ 0'5	- 0'04
1879	- '014	+ 1'8	- 8	- 0'8	- 0'96
1880	- '029	- 0'2	0	- 0'1	- 0'19
1881	+ 0'27	+ 2'2	- 4	- 0'5	- 0'91

COLD WEATHER PERIOD OF YEAR.	DEPARTURE FROM NORMAL IN NORTH-WESTERN INDIA AND BIHAR OF				
	Pressure.	Temperature.	Humidity.	Cloud.	Rainfall.
	"	"			Inches.
1882	+ '004	+ 0'7	+ 1	- 0'1	- 0'11
1883	- '001	- 1'0	0	+ 0'2	+ 0'78
1884	+ '014	+ 1'0	- 2	- 0'3	- 0'80
1885	+ '019	- 1'6	+ 1	+ 0'3	+ 0'14
1886	+ '005	- 0'6	+ 1	+ 0'3	- 0'28
1887	- '040	- 0'3	- 2	+ 0'1	- 0'15
1888	+ '025	- 1'0	+ 3	+ 0'8	+ 0'23
1889	+ '020	+ 1'4	+ 4	+ 0'8	+ 1'74
1890	- 0'29	+ 2'6	- 8	- 0'5	- 1'04
1891	+ '025	- 0'5	+ 6	+ 0'4	+ 0'70
1892	- '031	+ 2'5	- 2	- 0'2	- 0'37
1893	- '008	- 4'2	+ 11	+ 1'4	+ 2'04
1894	+ '002	+ 0'6	+ 10	+ 1'3	+ 0'92
1895	+ '004	+ 0'8	+ 5	- 0'2	+ 0'43
1896	- '013	+ 2'0	- 3	- 0'5	- 0'72
1897	- '018	+ 1'2	- 2	- 0'4	- 0'12
1898	- '037	+ 1'1	- 1	- 1'0	+ 1'22
1899	- '024	- 0'5	- 6	- 0'9	- 0'51
1900	- '012	+ 0'7	- 4	+ 0'7	+ 0'59
1901	+ '027	- 1'5	+ 6	+ 0'5	+ 1'38
1902	+ '024	+ 2'7	- 14	- 1'6	- 1'13
1903	+ '038	+ 0'2	- 6	- 0'8	- 0'85

This table shows that excessive rain tends to be associated with lower temperature than usual and higher pressure, and *vice versa* : it appears likely that it is the rain which cools the air and this cooling which increases the pressure.

The following table gives for the cold weather period the vertical pressure anomalies (or departures from normal of the excess of pressure at a station in the plains above a corresponding station in the hills, with its sign reversed) :—

PAIR OF STATIONS.	VERTICAL PRESSURE ANOMALY.				Mean of period November 1902 to February 1903.
	November 1902.	December 1902.	January 1903.	February 1903.	
Leh and Lahore .	- '008	+ '005	- '019	+ '015	- '002
Quetta and Jacobabad .	+ '005	+ '024	+ '013	+ '030	+ '018
Murree and Peshawar .	+ '002	+ '013	+ '002	+ '016	+ '008
Simla and Ludhiana .	+ '005	- '004	- '006	- '003	- '002
Chakrata and Roorkee .	- '008	+ '002	- '017	- '025	- '012
Ranikhet and Bareilly .	+ '002	+ '012	+ '012	- '002	+ '006
Mount Abu and Deesa .	+ '001	+ '001	- '008	- '019	- '006

For comparison with this table, the data for the past 9 years are given :—

PAIR OF STATIONS.	MEAN VERTICAL PRESSURE ANOMALY OF THE COLD WEATHER PERIOD, NOVEMBER TO FEBRUARY.								
	1902-1903.	1901-1902.	1900-1901.	1899-1900.	1898-1899.	1897-1898.	1896-1897.	1895-1896.	1894-1895.
Leh and Lahore .	- '002	+ '064	- '006	+ '003	+ '033	+ '040	+ '013	+ '041	+ '009
Quetta and Jacobabad .	+ '018	+ '048	- '003	+ '019	+ '027	+ '050	- '007	+ '019	+ '001
Murree and Peshawar .	+ '003	+ '053	+ '009	+ '040	- '012	+ '041	+ '006	+ '022	- '006
Simla and Ludhiana .	- '002	+ '027	- '018	+ '012	+ '005	+ '019	- '003	+ '012	- '017
Chakrata and Roorkee .	- '012	+ '011	- '007	+ '022	+ '019	+ '028	+ '023	+ '030	+ '010
Ranikhet and Bareilly .	+ '006	+ '022	+ '007	+ '023	+ '011	+ '018	+ '021	+ '025	+ '003
Mount Abu and Deesa .	- '005	+ '017	- '026	- '003	- '006	- '002	- '008	+ '005	- '007

The first of the two tables shows that the vertical anomalies were mostly positive and small in November 1902 when rainfall in upper India was in marked defect, and were rather larger in the succeeding month when practically no rain fell in upper India. In each of these months several disturbances entered northern India from Baluchistan. Similarly in January 1903 rainfall in upper India was in marked defect and in February in very great defect : we should have accordingly expected positive anomalies comparable with '020" in January and perhaps '030" in February ; but although there was a slight increase in the anomalies from January to February, the average for the stations on the border was small, being - '002" in January and - '005" in February.

During the past 25 years the cold weathers which have been most prominent for deficiency of rainfall in upper India combined with unusually small snowfall have been those at the beginning of 1879, 1887, 1890, 1892, 1902 and 1903. The following table gives the departures from normal of the rainfall for the period in the Punjab and in the United Provinces, together with the character of the snowfall in the mountains of upper India :—

YEAR.	RAINFALL DEPARTURE OF PERIOD JANUARY AND FEBRUARY.		Snowfall in the mountains of upper India.
	Punjab.	United Provinces of Agra and Oudh.	
1879	- 1'87	- 1'05	Unusually scanty.
1887	- 1'14	+ 0'03	Much below the normal.
1890	- 1'48	- 1'13	Small in amount.
1892	- 1'06	+ 0'01	Abnormally small in amount.
1902	- 1'92	- 1'12	Exceptionally light and much below the normal.
1903	- 1'27	- 0'91	Below normal in January and February ; heavy in March.
Normal rainfall of period.	1'96	1'37	

The following table of vertical anomalies illustrates the connection between deficiency of precipitation and lack of steepness in the vertical pressure gradients:—

YEAR.	VERTICAL PRESSURE ANOMALY.							
	LEH AND LAHORE.		MURREE AND PESHAWAR.		QUETTA AND JACOBABAD.		SIMLA AND LUDHIANA.	
	January.	February.	January.	February.	January.	February.	January.	February.
1879	+	+	+	+
1887	—	+	—	+	—	+	—	+
1890	+	+	+	+	+	+	+	+
1892	+	+	+	+	+	+	+	+
1902	+	+	+	+	+	+	+	+
1903	—	+	+	+	+	+	—	—

A comparison with the succeeding table will show that the two months in which the Lahore-Leh gradient was steeper than usual were both months in which the absolute humidity was in excess.

These statements may be taken as supplementing the following table of precipitation at extra-Indian stations:—

STATION.	Normal of period.	DEPARTURE FROM NORMAL OF PRECIPITATION OF PERIOD, JANUARY AND FEBRUARY, MEASURED AS RAINFALL.									
		1892.	1895.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.
Leh	0.66	—0.05	—0.19	+1.15	+0.52	—0.19	—0.31	+0.26	+0.50	—0.65	+0.89
Kashgar	0.39	...	—0.33	—0.39	+0.19	+0.01	—0.39	+0.17	—0.27	—0.36	—0.30
Gilgit	0.37	—0.37	+0.07	—0.09	+0.31	—0.17	+0.12	—0.10	—0.04	—0.33	+1.19
Kabul	2.22	...	...	—2.22	+4.58	—1.89	—2.22	—2.22	—2.22	—1.61	—1.40
Quetta	4.24	—2.61	—2.72	—0.71	+0.04	—2.73	—2.21	+0.39	—2.05	—4.13	—2.03
Chaman	3.05	...	—2.01	—0.93	+1.52	—2.48	+0.02	+2.49	—0.57	—2.73	—2.16
Kalat	2.05	...	—0.85	...	+0.76	—1.33	—0.31	—0.24	+0.78	—2.03	...
Meshed	1.44	—1.09	—1.33	+0.78	—0.08	+0.24	—0.03	—0.56	—1.43	+1.75	+1.33
Jask	1.84	...	+0.93	—0.71	—0.17	—1.84	—1.36	+1.40	—1.24	—1.17	—0.33
Teheran	2.11	...	—0.20	0	+1.32	—1.85	+0.23	—0.57	—1.70	+0.78	+2.27
Ispahan	0.43	...	—0.43	+0.02	+0.25	+0.35	+0.14	—0.01	—0.43	+0.33	+0.11
Bushire	5.47	—2.65	—2.24	—2.81	+0.15	—4.14	—2.56	+3.00	—4.25	—4.39	—4.97
Baghdad	3.55	...	—1.34	+1.52	—0.49	—1.08	—3.15	—1.96	—3.02	—2.98	—1.80
Perim	0.60	+0.52	—0.35	—0.34	+0.09	—0.49	—0.28	+1.68	+0.02	—0.45	+0.87
Aden	0.61	—0.45	+0.69	—0.02	—0.54	—0.46	+0.73	+0.82	—0.28	—0.55	+3.77
Zanzibar	4.75	+0.91	—4.21	+0.02	—0.44	—2.88	—3.39	+4.21	+8.20	—0.70	+1.02
Seychelles	30.48	...	—9.66	+13.43	—2.37	+10.74	—11.12	+1.50	—2.51	—0.02	+2.87

YEAR.	DEPARTURE FROM NORMAL IN THE INDIAN AREA.					
	ABSOLUTE HUMIDITY.			RELATIVE HUMIDITY.		
	January.	February.	Mean of period.	January.	February.	Mean of period.
1879	—0.32	—0.05	—0.19	—6	—3	—5
1887	+0.03	—0.17	—0.17	+3	—4	—1
1890	—0.18	—0.08	—0.13	—4	—4	—4
1892	—0.02	+0.15	+0.07	—3	—1	—2
1902	—0.11	—0.27	—0.19	—6	—8	—7
1903	+0.12	—0.09	+0.02	—1	—2	—2

The accompanying statement of cloud for the same series of years brings out the natural fact that years of little precipitation have as a rule less than the usual amount of cloud:—

YEAR.	DEPARTURE FROM NORMAL OF MEAN CLOUD AMOUNT IN THE INDIAN AREA.		
	January.	February.	Mean of period.
1879	—1.0	+0.1	—0.5
1887	+0.4	—0.6	—0.1
1890	—0.5	—0.4	—0.5
1892	—0.1	+0.1	0
1902	—0.8	—0.4	—0.6
1903	+0.5	—0.2	+0.2

The snowfall data may be briefly summarised by the statement that the total snowfall up to the end of February in the inner ranges of the Punjab Himalayas and in Baluchistan and Persia was probably in excess, but it was in defect as a rule on the outer ranges and the lower hills. In the Kumaon Himalayas it was in excess.

Hot weather period, March to May, 1903.—

Although experience has shown that in the majority of years a closer representation of seasonal conditions is obtained by regarding the hot weather as commencing on 1st March than on 1st April, it would appear that in 1903 this was not the case. During March four depressions of the cold weather type gave heavy snowfalls in the mountain areas and rain in upper India: of these the first and third affected Baluchistan, while the second and fourth formed in Persia, the latter arriving in India on the 30th of the month.

If March be considered as belonging to the cold weather period, the estimate of the season would be materially altered: rainfall in the Punjab would then be 17% in defect (instead of 62%) as is shown by the following table, but the snowfall would probably be in slight excess:—

MONTH.	PUNJAB.				UNITED PROVINCES OF AGRA AND OUDH.			
	Average actual rainfall, 1903.	Average normal rainfall.	Departure from normal.	Percentage departure from normal.	Average actual rainfall, 1903.	Average normal rainfall.	Departure from normal.	Percentage departure from normal.
January	0.76	1.10	-0.34	-31	0.45	0.80	-0.35	-44
February	0.03	0.97	-0.94	-97	0.02	0.57	-0.55	-96
March	1.66	0.87	+0.79	+91	0.08	0.36	-0.28	-78
TOTAL	2.45	2.94	-0.49	-17	0.55	1.73	-1.18	-68

The total precipitation of the cold weather, if reckoned from October to March, would be larger than usual at 7 out of the 12 representative extra-Indian stations given in the table appended:—

STATION.	RAINFALL OF PERIOD, OCTOBER TO MARCH.									
	Normal of period.	DEPARTURE FROM NORMAL.								
		1894-95.	1895-96.	1896-97.	1897-98.	1898-99.	1899-1900.	1900-01.	1901-02.	1902-03.
Leh	"	"	"	"	"	"	"	"	"	"
Kashgar	1.31	+0.77	+0.89	+0.98	-0.75	+0.31	-0.03	+0.24	-0.52	+2.11
Gilgit	0.85	-0.00	-0.29	-0.18	-0.01	-0.86	+0.25	-0.74	-0.83	-0.09
Kabul	1.30	-0.02	+0.53	+0.15	+0.57	+0.02	-0.91	-0.24	+1.57	+1.15
Quetta	8.45	?	+2.55	+2.88	-4.02	-4.30	-2.75	-3.17	-5.41	-2.66
Chaman	7.29	-2.53	+1.52	-0.67	-0.98	-2.71	-0.80	+1.96	-6.64	+2.29
Kalat	5.58	?	-1.38	+0.98	-1.95	-1.16	+1.19	+2.50	-5.08	+1.29
Meshed	3.92	-0.47	?	+0.08	+0.03	1.51	-0.24	+5.92	-3.76	?
Jask	5.50	...	+3.68	-1.54	-1.64	-0.52	+0.88	-3.47	+1.28	+6.00
Teheran	4.30	+2.79	-0.68	-2.06	-1.86	-2.91	+2.51	+0.19	-3.63	-1.24
Isfahan	7.34	+1.00	-0.13	+1.38	-0.28	-2.94	-2.34	-2.62	-0.64	+4.12
Bushire	3.09	+1.37	+1.03	-1.55	-0.08	-1.47	-0.05	-0.62	+0.23	+3.96
Baghdad	11.58	+11.95	-7.01	-3.83	-4.64	-4.10	+2.63	2.48	-8.75	-1.12
	7.75	+0.52	+3.89	-3.75	-1.90	-4.97	-2.79	-3.80	-5.16	-2.53

This inclusion of March in the cold weather period would also be in better agreement with the negative character of some of the vertical anomalies, which are associated with excess rather than defect of precipitation from cold weather storms.

The chief characteristics of the period March to May 1903 are exhibited in the table appended:—

METEOROLOGICAL PROVINCE.	DEPARTURE FROM NORMAL DURING HOT WEATHER PERIOD, MARCH TO MAY, 1903.							
	Mean pressure.	Mean maximum temperature.	Mean minimum temperature.	Mean aqueous vapour pressure.	Mean humidity.	Mean cloud amount.	Total rainfall.	Percentage departure of rainfall.
Burma Coast and Bay Islands.	+0.07	+0.8	+0.9	+0.06	0	-0.9	-7.17	-40
Burma Inland	+0.10	+1.6	+0.5	...	...	...	-1.83	-27
Assam	+0.04	+0.8	-0.6	...	...	...	-6.32	-24
Bengal and Orissa	+0.12	+1.5	+0.3	-0.09	-3	+0.1	-4.43	-39
Gangetic Plain and Chota Nagpur.	+0.21	0	-0.6	-0.54	-5	+0.2	-0.75	-29
Upper Sub-Himalayas	+0.32	-3.4	-1.3	-0.64	-4	+0.5	-0.09	-4
Indus Valley and North-West Rajputana.	+0.42	-4.6	-2.8	-0.06	+2	-0.1	+0.44	+34
East Rajputana, Central India and Gujarat.	+0.26	-2.1	-1.8	-0.82	-6	-0.2	-0.12	-21
Deccan	+0.18	-0.7	-1.0	-0.37	-3	-0.2	+0.35	+19
West Coast	+0.03	-0.8	-1.0	-0.12	+1	-0.9	+0.87	+11
South India	+0.09	-0.2	0.1	+0.15	0	-0.2	+0.21	+5
WHOLE INDIA	+0.17	-0.6	-0.7	-0.27	-3	-0.1	-0.67	-15

The precipitation appears to have been the dominant factor in determining the temperature and indirectly the pressure. During March and May rainfall in upper India was in large excess: in April the unsettled weather extended through Baluchistan into the west Punjab, but did not affect the districts beyond. Heavy snow fell in March and moderate snow in April in the mountain regions to the north and west.

Maximum temperature was accordingly in large defect in March and April in the Punjab and in considerable defect in May: minimum temperature was there in slight defect in March and May and in moderate defect in April. The cooling influence extended during March and April to the United Provinces, Sind, Rajputana, Gujarat and Central India. The average pressure for the period was accordingly about '020" in excess compared with that of the geographical mean of India in the Punjab, Sind and Rajputana.

In north-east India (upper Burma, Bengal and Assam) rain was in large excess in March, in large defect in April and in slight to considerable defect in May. Mean temperature in these regions was accordingly in defect in March

and in excess in April and May, especially in the latter month.

In the Peninsula the rain of the period was in general excess except locally in the Central Provinces East, Malabar, Madras South and East Coast North: the excess in rainfall occurred chiefly in May, in which month mean temperature was accordingly in slight to moderate defect in the divisions Madras coast, Madras Deccan and South India.

It has previously been pointed out in annual summaries, as in 1900 and 1902, that years of diminished cold weather rains are usually followed by unusually dry and hot weather with relatively low pressure in upper India and with abundant rain in Assam and Bengal. The following tables giving particulars of 1903 and of the years 1879, 1887, 1890, 1892, 1899 and 1902 of diminished cold weather precipitation will bring out the contrast between these years and 1903:

YEAR.	DEPARTURE FROM NORMAL OF MEAN TEMPERATURE.					
	HOT WEATHER PERIOD, MARCH TO MAY.			MAY.		
	Extra-tropical India.	Tropical India.	Punjab, Sind and Rajputana.	Extra-tropical India.	Tropical India.	Punjab, Sind and Rajputana.
1879	+2'1	+0'2	+1'1	+2'1	-1'0	+2'5
1887	+0'8	-0'7	+2'5	+2'0	-0'7	+3'7
1890	+0'7	+0'2	+1'2	+1'1	+0'2	+1'8
1892	+3'1	+0'9	+4'4	+2'5	+0'4	+2'7
1899	+1'3	-0'4	+2'1	+2'1	-0'4	+3'3
1902	+1'3	+1'3	+2'4	+1'0	+1'4	+1'5
Mean	+1'6	+0'3	+2'3	+1'8	0	+2'6
1903	-1'3	+0'1	-2'9	+0'5	-0'3	-0'8

YEAR.	PERCENTAGE DEPARTURE OF HOT WEATHER RAINFALL FROM NORMAL IN			
	Assam.	East Bengal.	North Bengal.	South-West Bengal.
1879	-3	-55	-10	-68
1887	+1	-16	+60	+37
1890	-15	+1	-10	-23
1892	+53	+16	+52	-22
1899	-1	+29	-10	+5
1902	+1	+67	+29	+65
Mean	+6	+7	+19	-1
1903	-31	-42	-45	-25

The following tables contain the corresponding data for seven representative years of excessive cold weather precipitation: the departure of the hot weather rainfall and temperature in such cases is, however, not so consistent as it was in the former case of years of deficient cold weather precipitation:—

YEAR.	PERCENTAGE DEPARTURE OF HOT WEATHER RAINFALL FROM NORMAL IN			
	Assam.	East Bengal.	North Bengal.	South-West Bengal.
1877	+1	0	+22	-4
1885	-2	-18	-23	-33
1889	+1	-37	-62	-47
1891	-19	+37	+37	+65
1893	-6	+77	+23	+89
1894	+16	-10	-5	-36
1901	-37	-37	-40	-9
Mean	-7	+2	-7	+4
1903	-31	-42	-45	-25

YEAR.	DEPARTURE FROM NORMAL OF MEAN TEMPERATURE.					
	HOT WEATHER PERIOD, MARCH TO MAY.			MAY.		
	Extra-tropical India.	Tropical India.	Punjab, Sind and Rajputana.	Extra-tropical India.	Tropical India.	Punjab, Sind and Rajputana.
1877	0	0	0	0	0	0
1885	-2'0	-1'0	-2'2	-1'7	-0'8	-2'2
1889	-1'2	-0'5	-3'0	-2'8	-0'8	-6'3
1890	+1'8	+1'0	+2'0	+1'2	+1'5	+0'7
1891	-1'8	-0'1	-2'8	-0'7	+0'7	-1'4
1893	-1'9	-1'9	-1'0	-0'9	-1'8	-0'2
1894	+0'3	+0'2	+0'1	+2'0	+0'3	+2'0
1901	0	+0'4	-0'1	+0'4	+0'2	+0'4
Mean	-0'7	-0'3	-1'0	-0'4	-0'1	-1'0
1903	-1'3	+0'1	-2'9	+0'5	-0'3	-0'8

In order to form an impression of the influence of the frequent and heavy snowfall in March and the moderate snowfall in April, we may compare the temperature and

pressure conditions in the Punjab and United Provinces of March, April and May 1903, with those of the corresponding months of 1878, 1885, 1898, 1901 and 1902, years in which late and heavy snowfall occurred:—

YEAR.	DEPARTURE FROM NORMAL OF MEAN TEMPERATURE.					
	PUNJAB.			UNITED PROVINCES OF AGRA AND OUDH.		
	March.	April.	May.	March.	April.	May.
1878 . . .	+1'9	-0'9	-4'3	+1'4	-0'6	-4'6
1885 . . .	+1'2	-3'1	-8'1	+0'6	-1'0	-3'6
1898 . . .	-0'4	+4'4	+0'2	-0'6	+2'5	+0'9
1901 . . .	+1'3	-2'7	-0'3	-1'5	-1'7	+0'4
1902 . . .	+2'9	+0'1	+1'9	+3'2	-0'2	+0'2
Mean . . .	+1'4	-0'4	-2'1	+0'6	-0'2	-1'3
1903 . . .	-3'9	-4'3	-2'9	-1'5	-2'0	-0'4

YEAR.	DEPARTURE FROM NORMAL OF PRESSURE.					
	PUNJAB.			UNITED PROVINCES OF AGRA AND OUDH.		
	March.	April.	May.	March.	April.	May.
1878 . . .	+0'40	+0'22	+0'29	+0'47	+0'44	+0'47
1885 . . .	+0'30	+0'49	+1'23	+0'31	+0'27	+0'87
1898 . . .	+0'01	-0'32	-0'07	-0'08	-0'24	-0'12
1901 . . .	+0'55	+0'16	+0'10	+0'63	-0'03	+0'06
1902 . . .	-0'20	-0'16	-0'11	-0'27	-0'08	+0'07
Mean . . .	+0'21	+0'08	+0'29	+0'21	+0'07	+0'27
1903 . . .	-0'23	+0'66	+0'77	-0'19	+0'45	+0'52

The rainfall of May 1903 was in excess in upper India and parts of the defect in temperature and the excess in pressure are due to this cause.

The negative vertical pressure anomalies in May (or increased vertical gradients) were such as are usually associated with abnormally low temperatures in upper India and were thus to be anticipated under the circumstances.

The south-west monsoon period, June to September, 1903.—The following table gives the departures from normal during this period of the chief meteorological elements in the 11 meteorological provinces:—

METEOROLOGICAL PROVINCE.	DEPARTURE FROM NORMAL DURING SOUTH-WEST MONSOON PERIOD, JUNE TO SEPTEMBER 1903.							
	Mean pressure.	Mean maximum temperature.	Mean minimum temperature.	Mean aqueous vapour pressure.	Mean humidity.	Mean cloud amount.	Total rainfall.	Percentage departure of rainfall.
	"	°	°	"			Inches.	
Burma Coast and Bay Islands.	+0'10	+0'3	+0'5	+0'12	-1	-0'1	+4'82	+4
Burma Inland . . .	+0'16	0	+0'1	...	...	...	-5'74	-21
Assam	+0'08	-0'4	0	...	...	...	+6'41	+11
Bengal and Orissa . .	+0'09	+0'5	+0'1	+0'03	-2	+0'2	-2'92	-5
Gangetic Plain and Chota Nagpur.	-0'02	+2'4	+1'2	-0'14	-5	+0'1	-9'15	-23
Upper Sub-Himalayas	-0'05	+1'8	+2'0	-0'18	-4	-0'6	-5'38	-18
Indus Valley and North-West Rajputana.	+0'01	+1'6	+1'2	+0'24	-3	-0'9	+1'08	+15
East Rajputana, Central India and Gujarat.	-0'06	+2'2	+1'9	+0'03	-4	-0'8	-0'02	0
Deccan	-0'09	+1'6	+1'2	+0'22	0	+0'3	+1'19	+4
West Coast	-0'19	+0'1	+0'6	+0'23	+1	-0'2	+7'71	+9
South India	-0'14	-0'8	+0'2	+0'51	+4	+0'5	+4'97	+33
Whole India	-0'01	+0'8	+0'8	+0'13	-1	-0'2	+2'11	+6

As is usually the case the rainfall appears to have been the dominating element, and in tracing its effects it is necessary to consider the months in turn.

June.—During the first week ordinary hot weather conditions prevailed with temperature generally in excess. On the 11th the monsoon broke at Colombo and in south Malabar, but over the greater part of the Arabian Sea winds were light and the weather fine. Two days later a cyclonic storm began to develop in the Arabian Sea: this gave heavy rain in the Konkan, but the monsoon current thus initiated on the west coast proved to be somewhat feeble.

The Bay monsoon began to give moderate rain in Bengal on the 16th and the next day moderate to heavy showers fell in Burma, Assam and Bengal.

For a week both branches of the rain-giving current remained feeble and failed to penetrate into central and northern India: rain was largely confined to the Konkan, south India, Bengal, Assam and Burma. On June 25th a small depression formed at the head of the Bay and for a few days general rain was received: the Arabian Sea current, however, rapidly dwindled and on the 30th only light showers fell.

The rainfall of the month was on the whole in large defect. The only areas where an excess of rainfall occurred were Assam, Bengal, Mysore, the Madras coast, and south India. The deficiency in Bihar was about 20 per cent., in Chota Nagpur, Orissa and Berar about 35 per cent., and in the Central Provinces about 50 per cent.; in the United Provinces and Central India only about 30 per cent. of the usual quantity of rain fell, while in the Punjab, Sind, Rajputana and Gujarat the proportion was less than one-fifth.

As might be expected when rain was so largely in defect in the interior, temperature was there abnormally high. Mean temperature was in slight excess in Sind, Gujarat and Mysore, in moderate excess in Chota Nagpur, the Bombay Deccan and the Madras Deccan; in considerable excess in the United Provinces, the Punjab, Rajputana, the Central Provinces and Berar; and in large excess in Central India.

July.—During the first week of this month both monsoon currents were feeble and rain was light; it did not extend into north-western India or the United Provinces until the 12th. After this conditions improved and on the 13th precipitation, though not heavy, was well distributed over the country: cyclonic storms had also developed off the Kathiawar and Orissa coasts. During the remainder of the month series of storms from the Bay travelled into the interior, deflecting rain from Burma, Assam, northern Bengal and the United Provinces, and assisting the Arabian Sea monsoon current to give abundant rain in Central India. During the latter half of the month this current was uniformly strong, but the Bay current was feeble and unsteady.

Abnormally heavy rainfall occurred in the Kashmir valley from the 14th to the 23rd and combined with the melting of the snow to produce serious floods in the district round Srinagar.

Precipitation for the month was 8 per cent. in defect in the Central Provinces, 13 per cent. in Assam, about 40 per cent. in Bengal and Chota Nagpur, 55 per cent. in the United Provinces and 70 per cent. in Bihar. It was about normal in Burma, Orissa, the Punjab and Central India, about 25 per cent. in excess in the Bombay Deccan, Rajputana, Gujarat and Sind, 40 per cent. in the west coast and Madras coast, 60 per cent. in Berar and the Madras Deccan.

In the regions of deficient rainfall the excess of mean temperature was accordingly slight in Bengal, moderate in Chota Nagpur and considerable to large in the United Provinces and Bihar. Other parts of India were hotter than would be anticipated from the rainfall data: thus in Central India temperature was in large excess though rainfall was approximately normal. In the areas of excessive rainfall temperature was normal in the Bombay Deccan, the West Coast and Berar, in slight to moderate excess in Gujarat and Sind, and in considerable excess in Rajputana. It was in slight defect in the Madras Deccan and on the Madras coast.

August.—During the first week the Bombay current remained strong, while the Bay current was somewhat weak and formed two depressions: abundant rain fell in Burma, but in Bihar and the east of the United Provinces rain was scanty. After this the Bombay current dwindled and was feeble until the 20th, when a revival occurred on the Malabar and Konkan coasts. This burst of rain extended into the interior and died out in a week, after which most of the former feebleness was again shown.

After the first week of the month the Bay current became more vigorous and was fairly strong during the second and third weeks, but after this it became rather feeble again.

The rainfall of the month was more or less above the average in 37 of the 56 rainfall divisions. The excess averaged 1.25 inches, or 13 per cent. over India. It was over 50 per cent. in North and South Oudh, the east submontane United Provinces, and South Hyderabad. On the other hand the deficiency was 95 per cent. in Sind.

As rain occurred in the districts where temperature had been in greatest excess mean temperature fell greatly during the month and was normal over the whole of India with the exception of Sind, where it was 2.08 in excess.

September.—The Arabian Sea current was feeble at the outset, and its precipitation dwindled almost to vanishing point on the 5th; after this it revived for a time and gave abundant rain in the Punjab from the 9th to the 11th. Then another feeble period ensued, and the rains practically ceased on the 14th in north-west India. During the rest of the month, apart from some rain in the Central Provinces, from the 17th to the 22nd, the Arabian Sea current was, as is usual, active merely in the southern portion of its field.

The Bay current was somewhat unsteady throughout the month. It possessed only moderate intensity until the 11th when a depression formed in the delta of Bengal and gave fair rain in Bengal and the United Provinces. The current then strengthened and, owing to a depression which reached the Satpuras on the 18th, provided excellent rain in the central districts as well as in Bengal. During the last week of the month the Bengal current was feeble, and its effect was almost confined to Bengal until the 28th: a depression then determined moderately heavy rain in the region round the head of the Bay.

The rainfall of the month was in marked excess in Deltaic Bengal, the United Provinces East, North Oudh, United Provinces East Submontane and Hills, the Punjab (except South-East), North-West Frontier Province, Madras South, Central, Central and South, Mysore, Central India, and Madras East Coast South: the most conspicuous cases were the Punjab Submontane, East Coast South and Madras South (over 100 per cent.), Madras South Central (87 per cent.), United Provinces East, Central Punjab, North-West Frontier Province, Mysore and Central India East (over 60 per cent.). Rainfall was about 25 per cent. in defect in the Assam Hills, Bengal Hills, United Provinces West, and Baluchistan Hills, 33 per cent. in South-East Punjab and about 40 per cent. in North Bihar and Sind.

The deficiency of rain in South-East Punjab and Sind was associated with abnormally hot weather in that region, and in South India the heavy rainfall caused a slight deficiency in mean temperature; but elsewhere mean temperature for the month was normal with the exception of West Punjab and West Rajputana. All through the period of the south-west monsoon, temperature, the strength of the winds, the amount of cloud and the humidity were in general agreement with the rainfall conditions.

Extra Indian conditions.—In south-east Africa, including Bechuanaland, Natal, the Transvaal, Rhodesia and Nyassaland, the period from January to April or May had been much drier than usual; in many parts drought had prevailed and famine was threatening.

In north-east Africa the rains were late, but the conditions were less unfavourable than in 1902.

On 4th June the Nile at Khartoum began to rise rapidly.

At Mauritius, Zanzibar and Seychelles the conditions are shown in the following tables :—

MONTH.	MAURITIUS.				
	Departure from normal of pressure.	Departure from normal of rainfall.	Percentage departure of rainfall.	Departure from normal of hourly wind velocity in miles.	Percentage departure of wind velocity.
	"	Inches.			
April	—'015	+1'35	+26	—0'3	—3
May	+ '003	—3'07	—75	—1'0	—10
June	—'037	+0'19	+10	—0'9	—8
July	—'015	—0'65	—29	—1'1	—9
August	—'011	—0'49	—21	+0'2	+2
September	—'005	+0'34	+25	+0'8	+7

MONTH.	ZANZIBAR.				
	Departure from normal of pressure.	Departure from normal of rainfall.	Percentage departure of rainfall.	Departure from normal of hourly wind velocity in miles.	Percentage departure of wind velocity.
	"	Inches.			
April	—'013	+1'46	+14	—0'1	—1
May	—'026	—2'06	—19	+0'5	+6
June	—'040	—0'20	—13	+0'4	+4
July	—'031	—1'49	—54	+1'0	+12
August	—'029	+0'82	+43	+0'6	+9
September	+ '014	+0'20	+10	+1'2	+21

MONTH.	SEYCHELLES.				
	Departure from normal of pressure.	Departure from normal of rainfall.	Percentage departure of rainfall.	Departure from normal of hourly wind velocity in miles.	Percentage departure of wind velocity.
	"	Inches.			
April	—'010	+12'19	+247	—0'1	—2
May	—'030	+12'42	+280	—1'0	—14
June	—'044	+14'93	+291	—0'3	—3
July	—'044	+1'23	+48	+1'0	+8
August	—'031	—2'12	—75	—0'6	—4
September	—'014	—1'61	—29	+0'1	+1

When examined from the standpoint of pressure differences it will be noticed that the gradients from Mauritius to Zanzibar and from Mauritius to Seychelles were abnormally steep from April to August and from May to September, respectively. The data are given in the table appended :—

MONTH.	PRESSURE DIFFERENCE.					
	MAURITIUS minus ZANZIBAR.			MAURITIUS minus SEYCHELLES.		
	Mean of 1894 to 1902.	Mean of 1903.	Departure.	Mean of 1894 to 1902.	Mean of 1903.	Departure.
	"	"	"	"	"	"
April	+ '054	+ '069	+ '015*	+ '111	+ '105	—'006*
May	+ '059	+ '082	+ '023	+ '161	+ '181	+ '020
June	+ '048	+ '070	+ '022	+ '202	+ '224	+ '022
July	+ '087	+ '094	+ '007	+ '221	+ '244	+ '023
August	+ '105	+ '114	+ '009	+ '241	+ '257	+ '016
September	+ '108	+ '104	—'004	+ '211	+ '231	+ '020
Mean of June to September.	+ '087	+ '096	+ '009	+ '219	+ '239	+ '020

* The difference between these departures and those deduced from the previous tables is due to the fact that in the one case the normal is based on upwards of 25 years, and in the other, the mean of the 9 years from 1894 to 1902 is taken.

The characters of the corresponding gradients from the equatorial region to India were as follows :—

MONTH.	PRESSURE DIFFERENCE.	
	Zanzibar minus India.	Seychelles minus India.
	"	"
April	—'040	—'037
May	—'060	—'064
June	—'053	—'057
July	—'006	—'019
August	—'022	—'024
September	+ '015	—'013

In connection with the preceding tables the departures of wind velocity at Seychelles are of interest. The following table gives a comparison week by week, from the 1st May to the end of September 1903, of the air

pressure and velocity of the air movement at Port Victoria, Seychelles, in the eight years 1895 to 1903:—

WEEK.	to A.M. pressure reduced to sea-level and constant gravity at Lat. 45°	HOURLY WIND VELOCITY IN MILES.									
		1903.	1902.	1901.	1900.	1899.	1898.	1897.	1896.	1895.	
1st to 7th May	29° 8' 73"	4' 4"	7' 3"	6' 0"	4' 9"	5' 7"	3' 1"	7' 1"	5' 3"	5' 9"	
8th to 14th "	' 899	3' 2"	6' 5"	4' 7"	6' 3"	' 4"	2' 4"	6' 4"	8' 3"	3' 6"	
15th to 21st "	' 899	5' 1"	7' 7"	3' 0"	3' 4"	7' 5"	7' 9"	6' 2"	10' 1"	3' 7"	
22nd to 28th "	' 891	9' 1"	13' 9"	9' 8"	54	19' 5"	7' "	6' 9"	9' 4"	6' 4"	
29th May to 4th June.	' 846	10' 3"	12' 2"	8' 4"	8' 8"	10' 9"	7' 5"	4' 5"	9' 4"	9' 9"	
5th to 11th "	' 862	10' 5"	13' 4"	11' 5"	9' 6"	8' 3"	10' 8"	7' 3"	9' 5"	12' 9"	
12th to 18th "	' 894	13' 1"	8' 9"	7' 0"	9' 8"	12' 2"	13' 7"	7' 8"	11' 8"	11' 6"	
19th to 25th "	' 898	11' 1"	8' 6"	8' 3"	8' 9"	13' 5"	10' 3"	9' 0"	9' 9"	10' 3"	
26th June to 2nd July.	' 900	10' 7"	11' 1"	7' 8"	11' 3"	11' 7"	13' 0"	4' 0"	10' 7"	13' 0"	
3rd to 9th July	' 893	14' 5"	9' 5"	9' 4"	9' 8"	15' 9"	13' 9"	11' 3"	12' 6"	9' 7"	
10th to 16th "	' 918	11' 0"	9' 4"	7' 1"	13' 9"	14' 8"	12' 2"	10' 0"	11' 9"	11' 3"	
17th to 23rd "	' 938	11' 1"	10' 6"	11' 0"	11' 3"	13' 3"	8' 9"	9' 2"	12' 6"	14' 0"	
24th to 30th "	' 960	16' 5"	15' 3"	12' 9"	12' 4"	14' 8"	11' 5"	16' 8"	11' 3"	11' 2"	
31st July to 6th August	' 946	11' 8"	11' 8"	11' 5"	12' 9"	13' 0"	12' 4"	11' 5"	15' 8"	13' 2"	
7th to 13th "	' 904	12' 2"	10' 2"	15' 0"	13' 8"	14' 2"	12' 3"	9' 9"	14' 0"	11' 7"	
14th to 20th "	' 918	12' 7"	15' 7"	15' 7"	15' 5"	15' 1"	14' 3"	13' 1"	13' 7"	16' 0"	
21st to 27th "	' 932	13' 8"	11' 5"	15' 8"	14' 7"	15' 8"	12' 3"	12' 8"	15' 5"	14' 0"	
28th August to 3rd September	' 912	15' 8"	12' 2"	17' 2"	12' 2"	12	9' 9"	8' 9"	16' 1"	12' 0"	
4th to 10th "	' 961	12' 5"	14' 1"	15' 3"	10' 7"	15' 0"	13' 4"	16' 7"	10' 8"	13' 3"	
11th to 17th "	' 908	12' 4"	13' 4"	12' 5"	11' 5"	12' 8"	12' 5"	10' 9"	13' 3"	12' 9"	
18th to 24th "	' 979	10' 9"	8' 9"	8' 6"	14' 3"	7' 5"	10' 3"	13' 0"	12' 8"	12' 1"	

The correspondence between rainfall and either the pressure gradients or the wind velocities at the Seychelles is not very clear: the remark applies whether we compare the wind velocities of different years or at different periods of the year 1903. It becomes natural, therefore, to investigate the characteristics of years of abundant rainfall in India and of scanty rainfall in India. If the years 1875, 1878, 1879, 1882, 1884, 1886, 1887, 1889, 1890, 1892, 1893, 1894, 1897, and 1898 be taken as representing the good years, and 1876, 1877, 1880, 1888, 1891, 1895, 1896, 1899, 1901 and 1902 the bad years, the following are the average

departures of pressure from normal for the years of which data are available:—

MONTH.	AVERAGE ACTUAL DEPARTURE FROM NORMAL OF PRESSURE.					
	Mauritius.		Zanzibar.*		Seychelles.†	
	Good years.	Bad years.	Good years.	Bad years.	Good years.	Bad years.
	"	"	"	"	"	"
January	—'002	—'005	+ '011	+ '015	+ '003	+ '006
February	+ '005	—'018	+ '002	+ '013	—'036	+ '011
March	—'013	+ '002	+ '003	+ '004	0	+ '006
April	—'001	+ '006	+ '011	+ '004	+ '003	—'015
May	—'007	+ '13	—'007	+ '001	—'024	—'009
June	—'014	—'001	+ '003	+ '012	—'007	+ '012
July	—'020	+ '026	+ '003	+ '013	—'040	—'001
August	—'012	+ '012	0	+ '006	—'012	+ '001
September	—'013	+ '005	—'009	+ '026	—'020	+ '017
October	—'013	—'005	0	+ '019	+ '008	+ '008
November	—'003	—'004	—'015	+ '009	—'013	0
December	—'005	+ '011	—'007	+ '003	—'013	—'004

* Data for 7 good and 7 bad years are available.

† " " 3 " " 5 " " " "

The data for Mauritius yield the remarkable fact that the average pressure during the Indian monsoon period is *lower* in good years than in bad years: the differences between the good and the bad years for June, July, August and September are—

'013, '046, '024 and '018.

For Zanzibar the average pressure in the good years is lower than in bad years by

'009, '010, '006 and '035

in the four months. For Seychelles the same result is true: the differences being

'019, '039, '013, and '037.

The corresponding mean pressure in India in the good years has a lower average by '008", '003", '002" and '029" in June, July, August and September than in the bad years. Thus the pressure difference between Mauritius and India, which might naturally be regarded as measuring the force impelling the monsoon currents is *less* for the

good years than for the bad years by the following quantities:—

June.	July.	August.	September.
"	"	"	"
—'005	—'043	—'022	+ '011

These data suggest that there are other conditions which materially influence the strength of the monsoon, and an examination of the marine charts makes it clear that during the whole period, even in years of abundant rainfall, the flow of air from south to north across the equatorial belt is less rapid than that to the south and to the north of it. This would indicate a certain amount of ascensional movement to the south of the equator and of descending movement to the north of it. The former movement would naturally be associated with rainfall, and this might accordingly be expected to be large in years of deficient Indian rainfall and *vice versa*. The following table gives all the cases for which data are available when the monthly rainfall at Zanzibar or the Seychelles was in marked excess, together with the character of the Arabian Sea monsoon current, vigour being indicated by the sign + and weakness by the sign —*. It will be seen that, without an exception, rain of more than 2'6" in excess in May is followed in June by deficient Arabian sea monsoon current; it is interesting to notice the marked extent to which these characteristics were prolonged in 1899, and the fact that the excessive rainfall was shown first at Zanzibar and then at Seychelles:—

YEAR.	Month.	DEPARTURE OF RAINFALL FROM NORMAL.		CHARACTER OF MONSOON CURRENT.	
		Zanzibar.	Seychelles.	Bombay.	Bengal.
		"	"		
1881	May . . .	+ 2'70	...		
	June . . .	—1'02	...	—	+ (n)
1883	July . . .	+ 4'85	...	+	— (n)
	August . . .	—1'29	...	—	—
1884	May . . .	+ 4'01	...		
	June . . .	—0'77	...	—	—
1891	May . . .	+ 6'29	...		
	June . . .	+ 3'08	...	=	=
1892	May . . .	—0'02	...		
	June . . .	+ 0'04	...	—	—
	July . . .	+ 1'83	...	+	+
1893	May . . .	+ 2'66	...		
	June . . .	—0'71	...	+	+
	July . . .	—1'34	...	—	+
	August . . .	+ 1'31	...	— (n)	—

YEAR.	Month.	DEPARTURE OF RAINFALL FROM NORMAL.		CHARACTER OF MONSOON CURRENT.	
		Zanzibar.	Seychelles.	Bombay.	Bengal.
		"	"		
1895	May . . .	—1'55	+ 2'19		
	June . . .	—1'16	+ 3'07	+	—
	July . . .	—0'64	—0'83	—	+
	August . . .	—1'18	+ 0'68	—	— (n)
	September . . .	+ 3'60	—1'90	—	—
1896	August . . .	+ 2'70	+ 1'07	+	— (except in Burma).
	September . . .	—0'33	+ 1'94	=	—
1897	May . . .	+ 2'95	—1'71		
	June . . .	+ 2'58	+ 7'84	—	+ (n)
	July . . .	+ 2'06	+ 3'44	— (except in coast districts)	—
	August . . .	+ 0'42	—1'44	+	+
1899	May . . .	+ 10'01	+ 0'76		
	June . . .	—0'27	—1'60	— (n)	+
	July . . .	+ 1'72	+ 0'98	=	+
	August . . .	+ 1'01	+ 0'42	=	—
	September . . .	—0'71	+ 5'61	=	—
1900	July . . .	+ 2'74	—0'26	—	—
	August . . .	—0'50	—1'70	+	Normal.
1901	May . . .	+ 8'21	+ 0'29		
	June . . .	+ 0'78	—0'36	—	—
	July . . .	—0'73	+ 1'55	—	—
	August . . .	—0'62	—1'49	+	+
	September . . .	+ 1'20	+ 6'62	—	—
1902	May . . .	+ 2'82	—0'47		
	June . . .	—0'28	—4'22	—	—
	July . . .	+ 2'58	—1'64	+	+
	August . . .	—1'21	+ 0'93	—	—
1903	May . . .	—0'70	+ 12'42		
	June . . .	—0'41	+ 14'93	—	—
	July . . .	—1'11	+ 1'23	+	—

* In the table (n) appended to a sign implies that the conditions were nearly normal, and the duplication of a sign that the departure from the usual character was very large.

The strength of the Bay current is scarcely affected, because Zanzibar and Seychelles lie in the path of the Arabian Sea current.

The only inland station further to the east and in the

path of the Bay current is Chagos Island; for this the data are extremely scanty, but point in the same direction.

YEAR.	MONTH.	Total rainfall (Six Islands Chagos).	CHARACTER OF MONSOON CURRENT.	
			Bombay.	Bengal.
1899	May	"	—	+
	June	No data	— (n)	+
	July		=	+
	August		=	—
	September		=	—
1900	October	15'95*	—	—
	May	6'77*	—	—
	June	1'25	—	—
	July	0'51	—	—
	August	1'96	+	Normal.
1902	September	No data	+	+
	October		—	—
	May		—	— (n)
	June		—	—
	July	4'34	+	+
1903	August	12'28*	—	—
	September	19'88*	+	+
	October	7'19*	+	—
	May	13'53*	+	—
	June	6'31*	—	—
1903	July	2'67	+	—
	August	2'54	+	+
	September	6'84*	+	+
1903	October	2'53	+	+

* Cases of rainfall which are probably above the normal amount are distinguished by an asterisk.

It is interesting to note that the years since 1880 in which snowfall in April and May to the north and west of India has been in conspicuous excess, namely, 1883, 1884, 1885, 1891, 1897, 1899, 1900, 1901 and 1903, are in every case for which records exist, years in which the ascensional movement in the equatorial region, as evinced by rainfall at Zanzibar and Seychelles, has been in marked excess in one or more months of the monsoon period: in most cases also early Indian rainfall from the Arabian Sea current has been deficient.

These peculiarities, which appear to be related, confirm the views often expressed by Sir John Eliot that abundance or failure of the monsoon rains depends on variations in the character of the general circulation of the atmosphere. A satisfactory discussion of the matter is impossible before the data for Siberia, south Africa and Australia have been obtained and studied.

Period of the retreating south-west monsoon, October to December, 1903.—The following table gives the departures from normal of the chief elements for the eleven meteorological provinces:—

METEOROLOGICAL PROVINCE.	DEPARTURE FROM NORMAL DURING RETREATING SOUTH-WEST MONSOON PERIOD, OCTOBER TO DECEMBER.							
	Mean pressure.	Mean maximum temperature.	Mean minimum temperature.	Mean aqueous vapour pressure.	Mean humidity.	Mean cloud amount.	Total rainfall.	Percentage departure of rainfall.
	"	°	°	"			Inches	
Burma Coast and Bay Islands.	−'017	−1'0	+0'5	−'014	−1	−0'3	+5'12	+ 39
Burma Inland . . .	−'028	−1'2	+0'8	...	...	...	+3'15	+ 53
Assam	−'032	+0'4	+0'4	...	...	...	+1'97	+ 36
Bengal and Orissa . .	−'032	−0'5	+0'1	−'003	−1	+0'3	+2'17	+ 35
Gangetic Plain and Chota Nagpur.	−'034	−1'8	0	+0'12	0	+0'2	+5'91	+191
Upper Sub-Himalayas .	−'029	−0'1	+0'8	−'001	−1	−0'3	+0'46	+ 41
Indus Valley and North-West Rajputana.	−'031	+0'8	−0'2	+0'48	+1	−0'4	−0'22	− 55
East Rajputana, Central India and Gujarat.	−'022	−0'8	−1'0	−'039	−6	−0'4	+0'58	+ 55
Deccan	−'028	−1'0	−1'0	−'032	−3	−0'1	+2'26	+ 58
West Coast	−'016	−1'0	−0'5	−'024	−2	−0'3	−0'55	− 8
South India	−'029	−1'3	−0'1	+0'10	+5	+0'6	+2'77	+ 17
Whole India	−'027	−0'7	0	−'004	0	−0'1	+0'93	+ 54

The most conspicuous features of the period are the low pressure and large rainfall with a corresponding deficiency in maximum temperatures in the regions where the precipitation was in greatest excess—

A statement of the conditions month by month is appended:—

October.—Early in the month both monsoon currents were of moderate intensity and rain was distributed with tolerable uniformity over all parts, except north-west India. A depression formed off the Circars coast on the 3rd of the month and passing through the east Satpuras on the 7th, filled up in the United Provinces on the 9th and 10th: it gave extremely heavy rain in the United Provinces and heavy rain in parts of the Deccan, Central India and Bengal. After the disappearance of the depression on the 12th showers fell in Burma and the southern Peninsula, but practically no rain fell elsewhere until the 28th, when a depression formed off the Circars coast. This crossed the coast and moved north-eastward, giving moderately heavy rain round the head of the Bay.

No depression of the cold-weather type formed during the month.

The rainfall of the month was largely above the average in Burma, Bengal, the United Provinces, the Central Provinces, Central India and east Rajputana. The rainfall of the month was, on the other hand, in defect over the greater part of the Punjab, the North-West Frontier Province, North Bombay and the east of the Peninsula.

Maximum temperature was accordingly in moderate to large defect in the United Provinces, Chota Nagpur, Central India and the Central Provinces (Central), with minimum temperature in slight to considerable excess. In Hyderabad (South) maximum temperature was in moderate defect. Both day and night temperatures were above normal in Assam, Bengal hills, the Punjab, Gujarat, Sind and Rajputana (West).

The distribution of rainfall is in accordance with the pressure departures of the month. Pressure was in chief

defect to the south of the United Provinces and the east of the Central Provinces. The pressure conditions had thus changed completely from those obtaining in September.

November.—During the first four days a high pressure area existed in Central India and the country was almost free from rain. A shallow depression formed off Madras on the 4th and light to heavy rain fell for a week in the south Peninsula. From the 14th to the 17th rain fell in Burma and south India and then there began another very dry period lasting a fortnight with practically no rain at all. On the 26th a depression, which apparently formed in the south of the Bay, approached the Madras coast and gave one or two remarkably heavy showers on the coast with moderate showers in south India.

The only event suggesting a depression of the cold weather type was the occurrence of light rain at Ispahan on the 19th followed by partially clouded skies on the 21st in Baluchistan. The effect upon India proper was, however, limited to a strongly marked warm wave which extended over north-west India.

Rainfall for the month was in large excess in Burma, except Tenasserim (owing to the cyclonic storm of the middle of the month), in Assam and Eastern Bengal, while over the greater part of Madras the rainfall was over 100 per cent. in excess. Outside the areas mentioned hardly any precipitation occurred.

In Burma, Assam (Surma) and east Bengal the rain gave abnormally warm nights and cool days, while in Madras the minimum temperature was normal and the maximum, except in the southern districts, was in very slight to moderate defect.

Over Bombay (north), Rajputana, Central India, the Central Provinces and Berar, where rainfall and cloud were in defect, minimum temperatures were in slight to considerable defect.

Pressure was in slight defect in the Deccan, Assam and northern Burma: on the south Tenasserim coast pressure

The year.—The following is a tabular summary of the meteorological data of the year 1903 for the eleven meteorological provinces of India:—

PROVINCE.	Bar. departure from normal. (1)	Mean maximum temperature of year. (2)	Departure from normal of year. (3)	Mean minimum temperature of year. (4)	Departure from normal of year. (5)	Yearly mean of mean between maximum and minimum. (6)	Departure from normal of year. (7)	Mean daily range of temperature. (8)	Absolute range during year. (9)	Mean monthly absolute range. (10)	Rainfall of year. (11)	Normal rainfall of year. (12)	Departure from normal of year. (13)	Percentage departure of rainfall. (14)
Burma Coast and Bay Islands.	+009	87.8	+0.1	73.7	+0.7	80.8	+0.4	14.1	38.4	22.2	138.78	141.37	+2.02*	+ 1
Burma Inland	+012	90.8	—0.2	69.7	+0.4	80.3	+0.1	21.2	61.2	31.5	35.34	40.05	—4.70	—12
Assam . . .	+007	83.3	0	66.3	—0.3	74.8	—0.2	17.0	53.0	27.7	96.02	94.07	+1.95	+ 2
Bengal and Orissa .	+005	87.1	+0.3	69.6	+0.1	78.4	+0.2	17.5	59.4	28.8	67.17	71.99	—4.81†	— 7
Gangetic Plain and Chota Nagpur.	+004	88.7	+0.3	67.1	+0.1	77.9	+0.2	21.7	69.1	35.2	41.20	45.97	—4.77	—10
Upper Sub-Himalayas.	+007	87.3	—0.3	63.3	+0.5	75.4	+0.1	24.0	71.7	40.8	28.64	36.57	—6.93*	—19
Indus Valley and North-West Rajputana.	+010	91.1	—0.3	64.9	—0.6	78.1	—0.5	26.2	82.7	43.9	10.52	9.99	+0.53	+ 5
East Rajputana, Central India and Gujarat.	+006	90.1	—0.1	67.2	—0.2	78.7	—0.2	22.9	72.2	38.5	27.97	28.51	+0.14*	0
Deccan . . .	+001	90.3	0	67.3	0	78.8	0	23.0	63.5	36.8	44.43	39.99	+3.67*	+ 9
West Coast . . .	—004	85.7	—0.3	74.3	0	80.0	—0.2	11.3	35.9	19.8	109.70	101.74	+7.96	+ 8
South India . . .	—004	89.8	—0.6	72.4	+0.4	81.1	0	17.4	44.2	28.2	44.38	36.15	+8.23	+23

A reference to Table I will show that the means in columns 12 and 13 of this table are derived from a smaller number of stations than the means in the 11th column. The sum of the figures in columns 12 and 13 of this table will, therefore, not agree with the figures in column 11.

was in slight excess. Thus the relationship of deficiency of pressure with excess of temperature and of rainfall was not clearly maintained.

December.—During the first week of the month local rain fell over the southern half of the Peninsula and the minimum temperature was accordingly above the average: over the west of India the weather was fine and cloudless with mean temperature below the normal owing to abnormally cool nights. Henceforward until the 25th, practically no rain fell with the exception of scattered rain in the extreme south of the Peninsula between the 18th and 21st. A hot wave, however, passed across the head of the Peninsula between the 8th and 14th and was followed by abnormally cold weather. On the 23rd a depression appeared in the extreme north-west and moving eastwards gave rain in the plains and snow in the hills until the 28th: this occasioned an intensely cold wave, mean temperature in Gujarat being 14° in defect on the 27th, and the effect of the wave persisted over northern India until the 31st.

During the last three days of the month a small depression gave disturbed weather in south India with moderate to heavy local falls of rain.

Rainfall of the month was generally in large defect except in Tenasserim, the Punjab hills, and submontane districts, North-West Frontier Province, the Bombay Deccan, the west coast and the whole of Madras: in these areas it was in slight to large excess.

Mean temperature was normal or in slight defect over nearly the whole of India. Pressure was correspondingly uniform, being in very slight or slight defect over practically the whole country.

In this month in which the influence of the monsoon current was confined to the southern limits of India and Burma, it would appear that the variations of temperature, which were at times strongly marked, were not determined by the rainfall but by disturbances of obscurer origin.

The mean pressure of the year was in very slight excess over the whole of India, with the exception of the West Coast and South India, where the deficiency was '004": the excess was greatest in Burma Inland where it was '012".

The mean maximum and mean minimum temperatures differed in no province by as much as 1° from their normal amount. Mean temperature was in largest excess in the province of Burma Coast and Bay Islands, where the excess amounted to 0°·4 and in greatest defect in the Indus Valley and North-West Rajputana, where the deficiency was 0°·5.

The mean rainfall of the year was in excess in six provinces, normal in one, and deficient in four. The greatest proportional excess was 23 % in South India, and the greatest proportional defect was 19 % in the Upper Sub-Himalayas.

It will be noticed that in South India, where the rainfall was in greatest excess and is largely provided by the monsoon currents, pressure was in largest defect relative to the mean of India: day temperature was also in largest defect and night temperature was in excess.

G. T. WALKER.

Appendix.

The following is a brief statement of the hailstorms in 1903, the reports of which were received too late to be given in the storm sections of the Monthly Weather Reviews of the year :—

Day and month.	AREA AFFECTED BY STORM.	Hour of occurrence.	Duration of storm.	Direction from which it came.	Size or weight of largest stones.	Character of storm.	ESTIMATE OF DAMAGE CAUSED BY STORM.
Oet. 2	NORTH-WEST FRONTIER PROVINCE. 4 villages in the Hangu tahsil of the Kohat district.	...	...	...	...	...	Damaged crops, necessitating a remission of revenue amounting to Rs. 294-8-7.
Mar. 4	PUNJAB. Harokha village in the Rawalpindi tahsil of the Rawalpindi district.	...	...	...	...	...	Damaged crops.
" 11	Several villages in the Daska tahsil of the Sialkot district.	Noon	15 minutes.	SW	About the size of a gram.	...	Damaged crops slightly.
" 11	Several villages in the Raya tahsil of the Sialkot district.	3 P.M.	Half an hour.	SW	About 3 ounces in weight.	...	Damaged crops to some extent.
" 11	Several villages in the Pasrur tahsil of the Sialkot district.	Afternoon.	Half an hour.	...	...	...	No damage.
" 11 and 12	About 26 square miles in the Depalpur tahsil of the Montgomery district.	...	...	...	...	...	Damaged crops, necessitating a remission of revenue to the extent of Rs. 619.
" 12	4 villages in the Bhera tahsil of the Shahpur district.	...	...	...	...	...	Damaged crops, necessitating a remission of revenue to the extent of Rs. 412.
" 12	7 villages in the Sialkot tahsil of the Sialkot district.	...	...	...	About the size of a pea.	...	No damage.
Mar. 12	PUNJAB—contd. Several villages in the Zafarwal tahsil of the Sialkot district.	7 P.M.	Half an hour.	...	About the size of a plum.	...	3 villages suffered considerably.
" 12	6 villages in the Pasrur tahsil of the Sialkot district.	...	...	...	About the size of a plum.	...	Damaged crops in one village.
" 20	Several villages in the Sialkot tahsil of the Sialkot district.	...	Half an hour.	N	Plum.	...	
" 20	About 8 square miles in the Panipat tahsil of the Karnal district.	...	...	...	...	...	Damaged crops, necessitating a remission of revenue to the extent of Rs. 629.
" 30	7 villages in the Kahuta tahsil of the Rawalpindi district.	...	...	...	...	...	Damaged crops.
" 30	Several villages in the Raya tahsil of the Sialkot district.	4 P.M.	About an hour.	...	About 12 ounces in weight.	...	Damaged crops severely.
" 30	Several villages in the Pasrur tahsil of the Sialkot district.	4 P.M.	About an hour.	...	Gram	...	No damage.
" 30	Several villages in the Daska tahsil of the Sialkot district.	4 P.M.	15 minutes.	...	Pea	...	
" 30	Several villages in the Sialkot tahsil of the Sialkot district.	...	Half an hour.	S.W.	Gram	...	
" ?	About 35 square miles in the Sarakpur tahsil, 11 square miles in the Kasur tahsil, 7 square miles in the Lahore tahsil, and one square mile in the Chunian tahsil of the Lahore district.	...	...	...	...	...	Damaged crops severely necessitating remission of revenue to the extent of Rs. 4,097.
Apl. 9	Village Buryoha in the Kahuta tahsil of the Rawalpindi district.	...	...	...	...	...	Damaged crops.
" 20	Village Dera Khalsa in the Kahuta tahsil of the Rawalpindi district.	...	...	...	...	...	Do.

Day and month.	AREA AFFECTED BY STORM.	Hour of occurrence.	Duration of storm.	Direction from which it came.	Size or weight of largest stones.	Character of storm.	ESTIMATE OF DAMAGE CAUSED BY STORM.	Day and month.	AREA AFFECTED BY STORM.	Hour of occurrence.	Duration of storm.	Direction from which it came.	Size or weight of largest stones.	Character of storm.	ESTIMATE OF DAMAGE CAUSED BY STORM.
Apr. 20	PUNJAB— <i>contd.</i> Six villages in the Raya tahsil of the Sialkot district.	3 P.M.	...	S.	...	...	Damaged crops severely.	Oct. 2 and 3.	PUNJAB— <i>concl.</i> 7 villages in the Gujar Khan tahsil of the Rawalpindi district.	...	...	...	...	...	Damaged crops.
" 21	Two villages in the Kahuta tahsil of the Rawalpindi district.	...	...	...	...	...	} Damaged crops.		CENTRAL PROVINCES.						
" 23	Village Moghal in the Gujar Khan tahsil of the Rawalpindi district.	...	...	...	...	...		Feb. 20	The whole of the Seoni district.	...	...	...	In places large.	...	The storm was severe in Dulhapur, where it injured crops to the extent of 8 to 10 annas in the rupee.

**TABLE I.—Abstract of Observations taken at 8 A.M. at 229 Stations
in India, Burma, etc., in the year 1903.**

Table

Abstract of observations taken at 8 A.M.

Number of District.	METEOROLOGICAL PROVINCE OR DISTRICT.	STATION.	Elevation of bar cistern above sea-level in feet.	PRESSURE 8 A.M. IN INCHES.							TEMPERATURE OF AIR.											
				Mean 8 A.M. pressure reduced to 32°.	Departure from normal.	Mean 8 A.M. pressure reduced to sea-level and to constant gravity at 45° Lat.	Highest pressure recorded during year.	Lowest pressure recorded during year.	Absolute range during year.	Mean monthly range of pressure.	Mean of 8 A.M. temperature of year.	Mean maximum of year.	Departure from normal of year.	Mean minimum of year.	Departure from normal of year.	Yearly mean of mean between maximum and minimum.	Departure from normal of year.	Mean daily range of temperature.	Highest temperature observed during year.	Lowest temperature observed during year.	Absolute range during year.	Mean monthly absolute range.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
I.—Burma Coast and Bay Islands																						
1	TENASSERIM AND BAY ISLANDS.	Car Nicobar	25	29.875	+009	29.827	30.091	29.705	.386	.161	80.4	86.9	+0.1	73.7	+0.7	80.8	+0.4	14.1	94.6	71.3	23.3	16.9
		Port Blair	61	29.860	+010	29.852	30.063	29.667	.396	.150	80.2	87.2	-0.2	77.3	+0.3	82.3	+0.1	9.8	96.1	70.6	25.5	16.7
		Mergui	96	29.860	+027	29.888	30.093	29.682	.411	.160	78.1	88.5	+1.0	73.4	+2.2	81.0	+1.6	15.2	98.6	63.3	35.3	23.2
		Tavoy	26	29.925	+008	29.882	30.145	29.735	.410	.165	76.1	88.4	+0.5	72.0	+1.1	80.2	+0.8	16.4	97.2	57.5	39.7	25.8
		Moulmein	94	29.828	+004	29.861	30.104	29.624	.480	.185	76.4	88.6	+0.6	72.9	+0.5	80.8	+0.6	15.8	98.5	57.4	41.1	24.5
2	LOWER BURMA	Rangoon	57	29.867	+008	29.861	30.150	29.624	.526	.185	76.5	88.7	-0.8	73.0	+0.2	80.9	-0.3	15.7	103.1	58.7	44.4	23.7
		Bassein	27	29.891	+012	29.853	30.162	29.625	.537	.187	77.0	88.2	+0.1	73.5	+1.4	80.9	+0.8	14.7	102.2	58.8	43.4	23.1
		Diamond Island	41	29.869	+001	29.845	30.135	29.595	.540	.190	79.9	84.6	-0.9	76.6	+1.4	80.7	+0.3	8.0	91.4	68.2	23.2	14.5
5	ARAKAN	Akyab	20	29.873	+001	29.836	30.171	29.542	.629	.216	75.9	85.7	-0.4	72.3	+0.3	79.0	-0.1	13.5	98.9	50.6	48.3	21.9
3	CENTRAL BURMA	Toungoo	183	29.731	+014	29.859	30.042	29.476	.566	.201	77.0	90.8	+0.5	69.4	-1.3	80.2	-0.4	21.4	106.8	47.1	59.7	31.7
II.—Burma Inland.																						
3	CENTRAL BURMA	Thayetmyo	130	29.776	+017	29.848	30.123	29.491	.632	.208	76.9	92.1	+0.3	69.0	-0.6	80.6	-0.2	23.1	109.5	46.5	63.0	32.2
		Minbu	165	29.735	+012	29.846	30.088	29.448	.640	.214	76.4	91.3	-0.9	71.9	+0.8	81.6	-0.1	19.4	110.1	51.0	59.1	29.7
		Yamethin	657	29.240	+009	29.855	29.566	28.967	.599	.211	76.0	92.4	+0.2	70.4	+1.0	81.4	+0.6	22.0	110.4	49.2	61.2	32.6
		Monywa	280	29.617			29.992	29.316	.676	.208	76.5	92.3							112.7			
		Mandalay	250	29.639	+010	29.841	30.010	29.354	.656	.214	77.3	92.6	+0.2	71.5	+0.4	82.1	+0.2	21.1	111.6	51.0	60.6	31.9
4(a)	BURMA HILL STATIONS.	Bhamo	381	29.511	+011	29.856	29.866	29.201	.665	.226	70.3	85.9	-0.7	65.5	+0.4	75.7	-0.2	20.4	103.5	41.2	62.3	30.9
		Maymyo	2,445	26.406			26.616	26.217	.399	.156	66.7	78.2		57.3		67.8		20.9	94.0	32.8	61.2	31.3
		Lashio	2,731								66.9	82.8	+0.1	61.1	+1.1	71.9	+0.6	21.7	101.0	40.1	60.6	32.1
III.—Assam.																						
7	SURMA	Silchar	104	29.796	+009	29.855	30.141	29.435	.706	.234	72.5	86.0	-0.1	66.3	-0.3	74.8	-0.2	17.0	98.6	44.5	54.1	29.0
9	BRAHMAPUTRA	Sibsagar	333	29.564	P	29.863	29.960	29.213	.747	.251	68.5	80.8	-1.0	65.6	-0.3	73.2	-0.7	15.3	93.2	42.9	50.3	25.5
		Dhubri	115	29.757	+005	29.833	30.143	29.263	.780	.249	71.4	84.0	+1.1	67.2	-1.0	75.6	0	16.8	101.8	45.8	56.0	27.5
		Gauhati	195	29.698		29.853	30.088	29.209	.779	.252	70.7	84.6		66.0		75.3		18.6	96.5	43.6	52.9	28.3
		Tezpur	252	29.637		29.856	30.027	29.262	.765	.251	69.4	83.1		66.6		74.9		16.5	97.2	46.0	51.2	26.5
		Dibrugarh	353	29.552		29.875	29.948	29.203	.745	.249	69.0	81.3		64.7		73.0		16.6	96.2	42.9	53.3	28.8
IV.—Bengal and Orissa.																						
6	EAST BENGAL	Chittagong	87	29.789	+005 -003	29.826	30.121	29.419	.702	.233	74.7	85.2	+0.3 +0.4	69.6 69.7	+0.1 +0.2	78.4 77.5	+0.2 +0.3	17.5 15.5	96.0	48.1	47.9	59.4 24.8
		Noakhali	43	29.828		29.818	30.166	29.445	.721	.243	75.5	84.8		69.5		77.2		15.3	98.9	46.1	52.8	26.1
		Comilla	36	29.842		29.826	30.191	29.460	.731	.241	74.2	86.7		68.9		77.8		17.7	103.1	46.3	56.8	29.0
		Sirajganj	49	29.821		29.821	30.196	29.405	.785	.248	72.6	86.0		68.6		77.3		17.5	108.3	47.7	60.6	28.6
		Narayanganj	26	29.847	P	29.825	30.207	29.418	.769	.247	74.6	86.2	-0.3	70.4	+0.7	78.1	+0.1	15.6	104.5	50.2	54.3	26.5
10	DELTAIC BENGAL	Barisal	13	29.853	+006	29.811	30.210	29.477	.733	.248	76.3	85.9	-0.1	70.7	+0.2	78.3	+0.1	15.3	101.2	48.2	53.1	26.4
		Mymensingh	63	29.812	+003	29.825	30.159	29.418	.741	.243	73.3	84.9	+0.6	69.0	+0.6	77.0	+0.6	16.0	103.8	46.8	57.0	27.2
		Faridpur	46	29.825		29.820	30.182	29.410	.782	.252	74.4	86.0		69.0		77.5		17.0	105.5	45.4	60.1	28.0
		Jessore	33	29.827	+005	29.807	30.214	29.407	.807	.261	75.0	87.3	-0.4	69.6	P	78.5	P	17.7	108.6	46.1	62.5	29.8
		Calcutta	21	29.839	+003	29.806	30.237	29.430	.807	.271	75.7	87.8	+1.2	70.7	+0.2	79.3	+0.7	17.0	107.4	48.1	58.3	29.3
11	CENTRAL BENGAL	Saugor Island	25	29.824	0	29.794	30.229	29.372	.856	.268	77.7	86.2	+0.7	74.1	+0.3	80.2	+0.5	12.1	96.4	51.9	44.5	22.9
		Krishnagar	47	29.820		29.816	30.222	29.399	.823	.272	75.8	81.0		69.6		81.5		19.0	110.1	43.8	66.3	25.8
		Midnapore	149	29.700		29.798	30.114	29.298	.816	.267	76.1	90.0		71.3		80.7		81.7	112.4	49.6	62.8	31.6
		Bankura	298	29.530		29.784	29.935	29.133	.802	.267	75.4	89.6		70.2		80.0		19.4	112.9	48.3	64.6	32.2
		Raniganj	384	29.516		29.807	29.911	29.118	.793	.265	73.0	89.1		69.0		78.6		21.1	112.3	46.2	66.1	31.2

NOTE 1.—When a query is inserted against any reading or in the returns of any
NOTE 2.—The data from which divisional means

N.B.—Elevations in italics indicate barometrical determinations.

• Mean of 10 months.

† Mean of 11 months.

I.

at 229 stations in India, Burma, etc., in the year 1903.

WIND DIRECTION.								WIND VELOCITY.				HYGROMETRY, 8 A.M.				CLOUD.		RAINFALL.						Heaviest rainfall during year.	STATION.	METEOROLOGICAL PROVINCE OR DISTRICT.	Number of district.	
Number of winds from								Mean daily velocity in miles per hour, instrumental errors uncorrected.	Normal (uncorrected).	Percentage departure from normal.	Mean velocity corrected (where possible).	Mean humidity at 8 A.M. of year.	Departure from normal of year.	Mean vapour tension at 8 A.M. of year.	Departure from normal of year.	Mean cloud amount at 8 A.M. of year.	Departure from normal of year.	Number of rainy days during year.	Normal number of rainy days during year.	Departure from normal of year.	Rainfall of year.	Normal rainfall of year.	Departure from normal of year.					
Calm.	N.	N.E.	E.	S.E.	S.	S.W.	N.W.	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	
48	45	43	9	23	43	76	19	4	3.8		3.8	86		.891	+ .005	4.9	-0.4				138.78	141.37	+2.02	4.27	I.—Burma Coast and Bay Islands.		1	
18	14	55	5	34	20	71	89	59	7.0	7.4	-5	7.9	87	+1.5	.900	+ .005	5.6	-0.4	161			116.42	117.63	-1.21	4.68	Car Nicobar†	TENASSERIM AND BAY ISLANDS.	
227	42	18	2	3	22	20	7	24	2.3	1.8	+28	2.1	87	+1.9	.830	+ .014	4.6	-0.7	146	154.20	-8.20	155.10	168.37	-13.27	4.25	Port Blair.		
330	3	3			4	14	4	7	1.4				89	+1.7	.800	- .001	3.1	?	134	147.36	-13.30	188.91	209.28	-20.37	8.35	Mergui.		
283	5	8	4	20	26	30	6	3	2.4	2.8	-14	2.7	84	-2.7	.767	- .033	4.9	0	134	140.60	-6.60	198.72	183.92	+14.80	6.35	Tavoy.		
85	24	49	43	42	41	44	21	12	5.0	4.4	+14	4.2	86	-2.0	.800	- .005	5.5	+0.5	117	123.10	-6.10	89.19	96.78	-7.59	3.31	Moulmein	LOWER BURMA.	2
46	57	67	4	27	39	40	12	73	5.6	3.8	+47		87	-1.2	.829	+ .012	4.2	-0.7	118	128.50	-10.50	102.51	112.00	-9.49	3.35	Rangoon†		
11	44	57	36	18	29	73	30	64	10.1	7.1	+42	10.1	81	+1.6	.834	+ .017	4.6	-0.8	131	120.44	+10.56	121.44	116.08	+5.36	6.10	Bassein.		
1	73	116	14	93	36	15		17	3.1	3.7	-16	3.0	90	+2.1	.830	+ .025	4.6	-0.5	137	118.70	+18.30	232.58	189.20	+43.38	11.45	Diamond Island.	ARAKAN.	5
106	15	14	9	97	70	21	5	28	3.0	3.0	0	3.0	83	-3.0	.791	+ .013	4.6	-0.6	117	113.60	+3.40	85.72	79.11	+6.61	3.59	Akyab.		
													78	+0.5	.743	+ .014	3.9	0				35.4	40.05	-4.70		Toungoo	CENTRAL BURMA.	3
	34	38	16	53	143	29	22	30	3.9	5.1	-24		80	+4.2	.763	+ .055	4.3	+0.1	72	72.50	-0.50	37.40	36.72	+0.68	2.46		II.—Burma Inland.	
53	4		4	156	32	2	5	89	6.1			7.3	75	-0.3	.710	+ .008	3.8	+0.4	55	50.50	+4.50	29.62	31.86	-2.24	2.27	Thayetmyo	CENTRAL BURMA.	
140	34	1		90	86			14	7.2			7.5	77	-1.4	.706	+ .004	4.9	?	59	61.20	-2.20	30.81	37.56	-6.75	2.26	Minbu	UPPER BURMA.	
128	38	3	3	74	60	2	7	50	3.1			3.2	76		.712		4.0		43	44.60	-1.60	26.81	28.39	-1.58	2.59	Yamethin.		
28	40	44	6	48	142	42	2	13	9.5			9.6	74	-1.1	.705	- .005	1.6	?	54	47.50	+6.50	30.76	32.36	-1.60	3.80	Monywa.		
217	14	51	14	4	9	19	9	23	2.1			2.4	88	+0.9	.680	+ .006	4.6	-0.5	84	99.80	-15.80	56.66	73.38	-16.72	4.05	Mandalay.		
339		5	2		1	18			2.1				80		.534		5.8		83	90.70	-7.70	53.57	58.95	-5.38	8.27	Bhamo*		
	28	99	49	52	43	54	18	22	3.3				84	-2.1	.570	+ .009	6.3	-0.4	103			63.81	61.28	+2.53	2.35	Maymyo	BURMA HILL STATIONS.	4(a)
294	1	2	34	30	1			3	1.3	2.7	-52	2.2	89	0	.695	+ .003	5.6	-0.4	135	136.80	-1.80	96.02	94.07	+1.95	5.65	Lashio.	III.—Assam.	7
179	17	114	7	26	3	14		5	2.2	2.4	-8	2.0	88	+1.1	.711	0	6.9	-0.2	144	125.00	+19.00	120.17	124.87	+0.70	7.45	Silchar	SURMA.	
22	13	112	111	29	30	32	11	5	4.1	4.7	-13	4.8	86	-1.1	.698	0	4.4	-0.5	87	92.50	-5.50	95.74	93.28	+2.46	10.10	Sibsagar	BRAHMAPUTRA.	9
151	49	63	14	35	29	15	4	5	1.8			2.0	88		.694		5.5		101	91.50	+9.50	66.02	63.39	+2.63	5.09	Dhubri.		
78	3	82	125	31	20	16	9	1	3.2			3.4	89		.674		5.4		109	103.90	+5.10	62.55	71.66	-9.11	4.01	Gauhati.		
41	62	110	58	31	19	22	8	14	1.2			1.1	89		.660		5.6		136	131.80	+4.20	105.84	114.99	-9.15	3.38	Tezpur.		
													83	-0.6	.741	- .002	4.0	-0.3				67.17	71.99	-4.81		Dibrugarh.		
	26	119	41	106	54	11	1	7	5.6	5.1	+10	5.5	85	-1.5	.757	- .006	4.2	-0.8	101	96.42	+4.58	91.64	96.52	-4.88	6.43	Chittagong	IV.—Bengal and Orissa.	6
	53	55	58	75	57	34	13	20	4.0			4.3	86		.784		4.2		109	109.36	-0.36	98.45	113.68	-15.23	7.80	Noakhali.		
118	24	7	22	83	97	6	3	5	4.0			3.4	87		.755		4.1		92	100.25	-8.25	83.14	90.24	-7.10	4.25	Comilla.		
151	14	12	31	64	39	19	12	21	2.4			2.5	89		.748		4.3		62	78.66	-16.66	47.97	61.33	-13.41	3.50	Sirajganj.		
54	23	40	45	55	62	36	12	38	5.0	4.5	+11	4.9	88	+2.3	.789	+ .011	4.6	-0.7	86	94.08	-8.08	63.93	69.60	-5.67	5.85	Narayanganj.		
27	26	39	12	49	64	35	5	18	3.3				85	-0.5	.799	- .003	3.9	-0.9	103	97.90	+5.10	81.93	77.60	+4.33	4.72	Barisal.		
137	7	11	68	89	27	7	2	17	2.3			2.4	86	-1.9	.737	- .002	?	?	111	104.22	+6.78	116.29	87.55	+28.74	5.40	Mymensingh.		
70	34	5	31	72	84	23	8	38	3.9			3.3	87		.773		3.4		86	89.40	-3.40	57.75	68.56	-10.81	3.11	Faridpur		
165	24	12	19	72	47	16		10	2.5	3.2	-22	2.6	86	0	.788	- .003	4.5	-0.2	92	88.45	+3.55	56.41	64.02	-7.61	3.71	Jessore.	DELTAIC BENGAL.	10
54	24	20	47	37	97	79	10	47	4.1	4.8	-15		83	-0.3	.775	+ .007	4.6	+0.4	78	85.54	-7.54	54.14	59.55	-5.41	6.35	Calcutta.		
8	56	55	31	27	74	83	11	20	12.3	10.7	+20		86	+0.2	.838	+ .005	5.3	-0.4	82	81.96	+0.04	60.62	72.23	-11.61	5.38	Saugor Island.		
34	25	25	34	65	67	27	35	53	3.0			3.3	82		.762		4.1		81	74.20	+6.80	59.46	55.12	+4.34	5.46	Krishnagar.		
54	113	19	7	21	116	9	1	34	3.6			3.2	77		.727		2.7		83	78.22	+4.78	49.30	61.26	-11.96	3.10	Midnapore.¶		
256	3	14	27	25	10	11	19	6	2.5			2.9	72		.664		3.5		68	77.37	-9.27	46.08	56.43	-10.35	2.88	Bankura	CENTRAL BENGAL	11
271	8	2	22	20	5	2	8	27	1.4				77		.660		3.4		75	72.95	+2.05	44.14	56.13	-11.99	3.23	Raniganj.		

station, the data for that station are not utilized in calculating the provincial departures from normal. of the figure columns Nos. 41, 43 and 45 are derived are somewhat incomplete.

* Wind observations of 360 days.

† Wind observations of 361 days.

‡ Wind observations of 310 days.

¶ Wind observations of 361 days.

§ Wind observations of 363 days.

Table

Abstract of observations taken at 8 A.M.

Number of District.	METEOROLOGICAL PROVINCE OR DISTRICT.	STATION.	Elevation of bar cistem above sea-level in feet.	PRESSURE 8 A.M. IN INCHES.							TEMPERATURE OF AIR.											
				Mean 8 A.M. pressure reduced to 32°.	Departure from normal.	Mean 8 A.M. pressure reduced to sea-level and to constant gravity at 45° Lat.	Highest pressure recorded during year.	Lowest pressure recorded during year.	Absolute range during year.	Mean monthly range of pressure.	Mean of 8 A.M. temperature of year.	Mean maximum of year.	Departure from normal of year.	Mean minimum of year.	Departure from normal of year.	Yearly mean of mean between maximum and minimum.	Departure from normal of year.	Mean daily range of temperature.	Highest temperature observed during year.	Lowest temperature observed during year.	Absolute range during year.	Mean monthly absolute range.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
11	CENTRAL BENGAL — <i>concid.</i>	Burdwan . .	99	29.754	+0.02	29.802	30.158	29.338	.818	.266	75.1	89.3	+0.3	70.5	+0.1	80.0	+0.2	18.7	112.3	47.6	64.7	30.1
		Naya Dumka . .	489	29.366		29.813	29.755	28.968	.787	.261	74.2	87.9		68.0		78.0		19.9	110.4	45.5	64.9	32.2
		Berhampore . .	67	29.790	+0.02	29.806	30.190	29.388	.802	.259	74.2	88.5	+0.7	69.8	+0.2	79.2	+0.5	18.7	113.8	48.3	65.5	30.5
		Rampur Boalia . .	70	29.790		29.810	30.185	29.368	.817	.257	74.5	87.2		68.9		78.1		18.3	109.0	46.3	62.7	30.2
		Malda . .	72	29.764		29.788	30.159	29.369	.790	.257	74.1	87.3		67.7		77.5		19.5	110.0	43.2	66.8	31.3
		Bogra . .	61	29.793	+0.13	29.808	30.161	29.394	.767	.243	72.3	86.8	+0.4	68.0	-0.1	77.4	+0.1	18.8	109.8	45.5	64.3	30.4
12	NORTH BENGAL	Dinajpur . .	123	29.741	+0.12	29.822	30.122	29.358	.764	.241	72.2	86.7	+0.6	66.2	-1.1	76.5	-0.4	20.5	108.2	40.5	67.7	32.6
		Rangpur . .	123	29.753		29.834	30.136	29.356	.780	.247	72.5	85.6		66.5		76.1		19.1	106.2	41.8	64.4	31.2
		Jalpaiguri . .	284	29.581	+0.01	29.830	29.970	28.198	.772	.245	71.2	84.6	+0.8	65.8	-0.1	75.2	+0.4	18.8	101.9	46.1	55.8	28.9
		Cooch Behar . .	156	29.719		29.835	30.104	29.333	.771	.244	71.0	84.4		67.0		75.7		17.4	99.4	47.2	52.2	28.1
17	NORTH BIHAR	Purnea . .	125	29.735	+0.11	29.817	30.130	29.345	.785	.258	71.2	87.3	+0.5	65.7	-0.7	76.5	-0.1	21.6	110.3	38.5	71.8	33.8
14	ORISSA . . .	Balasore . .	50	29.808	+0.07	29.801	30.223	29.351	.872	.278	76.2	88.4	-0.2	70.7	+0.3	79.6	0	17.7	107.5	46.4	61.1	31.1
		Falec Point . .	21	29.836	+0.01	29.799	30.235	29.320	.915	.273	77.9	85.3	-0.5	72.6	+0.5	79.0	0	12.7	100.5	48.5	52.0	24.2
		Cuttack . .	80	29.776	+0.05	29.800	30.187	29.262	.925	.267	76.8	90.9	-0.5	73.1	+0.6	82.0	+0.1	17.8	112.5	52.1	60.4	29.7
		Puri . .	24	29.837		29.800	30.232	29.327	.905	.271	78.1	85.5		75.2		80.3		10.3	95.2	55.6	38.6	20.7
	V.—Gangetic Plain and Ohota Nagpur.				+0.04							88.7	+0.3	67.1	+0.1	77.9	+0.2	21.7			69.1	35.2
15	CHOTA NAGPUR	Hazaribagh . .	2,007	27.823	-0.01	29.802	28.168	27.454	.714	.252	72.0	85.6	+1.0	66.1	+0.5	75.9	+0.8	19.5	107.1	43.4	63.7	32.5
		Ranchi . .	2,128	27.707	0	29.804	28.038	27.350	.688	.243	71.1	84.6	0	65.8	+0.6	75.2	+0.3	18.3	105.2	43.2	62.0	31.8
		Daltonganj . .	730	29.111		29.813	29.525	28.706	.819	.274	72.3	90.9		65.4		78.2		25.6	113.6	37.2	76.4	40.7
		Purulia . .	816	29.021		29.796	29.462	28.634	.768	.267	74.6	89.4		68.7		79.1		20.7	113.2	46.2	67.0	33.5
		Chaibassa . .	760	29.075	+0.06	29.798	29.471	28.670	.801	.269	73.6	89.3	-1.4	69.3	+0.4	79.3	-0.5	20.0	111.9	46.8	65.1	34.7
16	SOUTH BIHAR	Gaya . .	375	29.466	+0.04	29.803	29.868	29.055	.813	.268	75.2	90.8	+0.9	69.1	+0.3	80.0	+0.6	21.7	111.8	44.9	66.9	35.0
		Dehri . .	351	29.479		29.793	29.892	29.055	.837	.271	74.9	90.2		69.9		80.0		20.3	111.9	46.1	65.8	35.2
		Patna . .	183	29.666	+0.05	29.805	30.079	29.254	.825	.270	74.6	88.5	+0.8	68.6	+0.1	78.6	+0.5	20.0	111.1	44.7	66.4	32.4
		Arrah . .	190	29.655		29.802	30.076	29.249	.827	.258	73.5	89.3		66.6		78.0		22.7	108.9	42.0	67.9	35.7
		Buxar . .	239	29.597		29.796	30.020	29.170	.850	.275	74.2	89.3		67.9		78.6		21.4	110.0	41.4	68.6	36.0
17	NORTH BIHAR	Bhagalpur . .	160	29.689		29.804	30.113	29.288	.825	.268	74.9	86.6		67.9		78.3		20.7	111.3	41.7	69.6	33.6
		Darbhanga . .	166	29.685	+0.07	29.809	30.093	29.281	.812	.259	72.6	86.3	+0.2	67.9	-0.7	77.1	-0.2	18.4	106.5	45.1	61.4	30.5
		Muzaffarpur . .	178	29.671		29.807	30.103	29.234	.869	.264	72.7	86.4		66.7		76.6		19.8	107.2	41.5	65.7	32.6
		Motihari . .	224	29.631		29.818	30.026	29.193	.843	.264	73.2	87.0		65.3		76.2		21.6	108.0	39.6	68.4	34.2
		Chapra . .	181	29.654		29.793	30.067	29.238	.829	.266	72.9	89.4		67.2		78.3		22.3	110.5	43.4	67.1	34.4
18	UNITED PROVINCES (EAST).	Benares . .	267	29.561	-0.03	29.789	29.980	29.146	.834	.278	74.1	89.3	+0.7	66.3	-0.7	77.1	0	22.5	111.8	38.0	73.8	39.6
		Allahabad . .	309	29.527	+0.04	29.797	29.949	29.116	.833	.283	74.4	90.7	+0.5	67.1	+0.5	78.9	+0.5	23.6	114.2	38.9	75.3	38.9
22	UNITED PROVINCES (EAST SUBMONTANE).	Gorakhpur . .	257	29.575	+0.07	29.795	29.985	29.183	.803	.252	72.8	88.0	0	66.5	-0.8	77.3	-0.4	21.5	110.7	41.5	69.2	34.4
19	SOUTH OUDH . .	Lucknow . .	368	29.459	+0.03	29.794	29.892	29.044	.848	.277	72.9	90.0	+0.2	66.0	+0.4	78.0	+0.3	24.0	114.4	39.1	75.3	39.8
20	NORTH OUDH . .	Bahraich . .	401	29.422	+0.04	29.794	29.828	29.035	.793	.260	72.5	88.1	-0.1	65.6	0	76.9	-0.1	22.5	110.7	40.0	70.7	38.0
21	UNITED PROVINCES (CENTRAL).	Cawnpore . .	416	29.410	+0.06	29.791	29.817	28.994	.823	.279	73.3	90.4	+0.5	66.1	0	78.3	0	24.3	114.1	38.0	76.1	40.1
		Mainpuri . .	516	29.309	+0.08	29.796	29.749	28.904	.845	.285	72.2	90.3	+0.5	65.6	0	78.0	+0.3	24.7	114.7	38.0	76.7	40.7
	VI.—Upper Sub-Himalayas				+0.07							87.3	-0.3	63.3	+0.5	75.4	+0.1	24.0			77.7	40.8
24	UNITED PROVINCES (WEST SUBMONTANE).	Bareilly . .	568	29.247	+0.03	29.795	29.661	28.828	.833	.269	70.5	87.5	-0.1	65.1	+0.4	76.3	+0.2	22.4	111.5	39.1	72.4	38.1
		Dehra Dun . .	2,233	27.565	+0.01	29.822	27.987	27.224	.763	.251	65.9	82.1	+1.0	60.7	-0.4	71.4	+0.3	21.4	104.5	37.5	67.0	36.3
		Roorkee . .	899	28.919	+0.09	29.810	29.371	28.493	.878	.273	68.4	87.0	-0.1	62.2	-0.4	74.6	-0.3	24.8	113.2	33.2	80.0	41.2

N.B.—Elevations in italics indicate barometrical determinations.

* Mean of 10 months.

† Mean of 11 months.

NOTE 1.—When a query is inserted a galat reading or in the returns of any
NOTE 2.—The data from which divisional means of

ANNUAL SUMMARY, 1903.

ccxiv

I—contd.

at 229 stations in India, Burma, etc., in the year 1903—contd.

WIND DIRECTION.									WIND VELOCITY.				HYGROMETRY, 8 A.M.				CLOUD.		RAINFALL.								STATION.	METEOROLOGICAL PROVINCE OR DISTRICT.	Number of district.
Number of winds from.									Mean daily velocity in miles per hour, instrumental errors uncorrected.	Normal (uncorrected).	Percentage departure from normal.	Mean velocity corrected (where possible).	Mean humidity at 8 A.M. of year.	Departure from normal of year.	Mean vapour tension at 8 A.M. of year.	Departure from normal of year.	Mean cloud amount at 8 A.M. of year.	Departure from normal of year.	Number of rainy days during year.	Normal number of rainy days during year.	Departure from normal of year.	Rainfall of year.	Normal rainfall of year.	Departure from normal of year.	Heaviest rainfall during year.				
Calm.	N.	N. E.	E.	S. E.	S.	S. W.	W.	N. W.																		33	34	35	36
136	19	23	31	14	44	52	20	26	2.8	3.3	-15	3.0	80	+3.9	.732	+ .026	4.6	+0.1	79	77.88	+1.12	57.56	57.06	+0.50	3.95	Burdwan.	CENTRAL BENGAL—contd.	11	
178	9	11	47	44	32	13	12	19	2.7			3.0	73		.637		4.5		69	79.60	-10.60	44.76	58.65	-13.89	3.05	Naya Dumka.			
142	7	9	44	29	50	53	14	18	2.8	3.5	-20	2.6	82	-2.9	.727	- .016	4.7	0	73	77.22	-4.22	47.62	55.13	-7.51	2.77	Berhampore.			
238	18	16	9	26	37	22	9		1.6			1.6	81		.728		3.0		69	75.14	-6.14	53.16	57.62	-4.46	5.45	Rampur Boalia.			
	38	34	55	74	47	40	30	47	5.4			4.9	80		.698		3.3		60	69.20	-9.20	40.55	54.18	-13.63	4.62	Malda.	NORTH BENGAL.	12	
149	19	20	102	16	26	9	3	21	2.9			2.8	84	+0.1	.709	- .021	4.2	+0.2	76	81.84	-5.84	61.00	67.14	-6.14	3.52	Bogra.			
	35	80	97	45	27	25	38	18	2.9			2.8	82	-1.1	.684	- .010	4.4	+0.2	78	77.09	+0.91	64.97	70.99	-6.02	5.67	Dinajpur			
132	2	61	78	34	31	11	9	7	2.4			2.5	85		.714		3.5		78	81.61	-3.61	80.68	84.02	-3.34	5.41	Rangpur.			
J	76	88	75	59	15	8	8	37	0.8			1.0	83	-3.3	.670	- .016	3.1	-0.7	100	99.26	+0.74	121.13	123.20	-2.07	9.25	Jalpaiguri.	NORTH BIHAR.	17	
171	1	33	116	18	11	10	5		1.6			1.7	87		.699		4.3		95	100.59	-5.59	134.32	128.63	+5.69	6.68	Cooch Behar.			
125	3	56	73	53		17	17	21	3.3	2.4	+28	2.9	81	-2.9	.689	0	2.8	-0.8	60	70.51	-10.51	46.83	64.88	-18.05	3.51	Purnea.			
76	45	10	4	4	56	104	8	58	4.5				79	-4.0	.742	- .034	3.2	-1.7	84	81.12	+2.88	79.31	64.68	+14.63	5.17	Balasore.			
21	55	7	11	11	46	102	54	57	8.9	9.1	-2	8.9	84	-0.8	.825	- .001	5.7	+0.5	79	73.74	+5.26	57.97	65.69	-7.72	4.33	False Point.	ORISSA.	14	
161	1	34	18	2	25	84	36	4	2.5	3.4	-26		80	+2.5	.768	+ .029	4.5	+0.2	86	75.61	+0.39	67.27	59.70	+7.57	5.14	Cuttack.			
76	78	15	1	3	9	153	10	25	13.2			12.4	86		.857		4.1		65	62.68	+2.32	46.81	58.14	-11.33	5.09	Puri.			
													70	-1.6	.611	- .011	3.1	-0.1				41.20	45.97	-4.77		V.—Gangetic Plain and Chota Nagpur.			
41	26	4	29	19	52	80	56	55	7.9	8.8	+16	7.0	60	-4.5	.489	- .032	5.1	+0.8	68	75.70	-7.70	45.84	53.40	-7.56	2.84	Hazaribagh	CHOTA NAAGPUR.	15	
47	20	19	23	16	45	59	41	95	5.8			6.8	66	-0.7	.526	- .012	4.1	+0.6	82	81.49	+0.51	49.87	55.79	-5.92	2.45	Ranchi			
261	6	15	23	14	5	20	6	5	4.4			3.6	67		.555		2.0		53	82.52	-9.52	24.50	44.53	-20.03	1.81	Daltonganj.			
84	6	22	28	25	25	20	99	56	3.0			3.7	68		.603		3.3		80	75.91	+4.09	48.40	52.71	-4.31	5.12	Purulia.			
254	6	15	6	4	10	33	31	6	1.2			1.0	77	+3.4	.660	+ .002	3.0	-0.6	81	75.30	+5.70	52.87	51.29	+1.58	2.94	Chaibassa.	SOUTH BIHAR.	16	
95	7	48	25	41	42	54	44	9	4.6	2.6	+77	3.6	69	-1.5	.650	+ .013	3.4	-0.3	52	57.38	-5.38	35.27	47.00	-11.73	3.25	Gaya.			
40	4	12	61	18	73	104	36	10	5.6			5.0	67		.601		3.8		53	55.34	-2.34	35.38	43.20	-7.82	2.97	Dehri.*			
19	2	51	95	30	22	70	51	25	5.6	3.0	+87	6.4	73	+1.2	.664	+ .011	3.4	-0.2	44	55.35	-11.35	25.29	48.04	-22.75	2.70	Patna.			
124	6	54	21	69	8	27	21	34	3.0			3.0	71		.617		1.6		53	55.93	-2.93	27.58	46.04	-18.46	1.70	Arrah.	NORTH BIHAR.	17	
18	5	11	128	25	16	67	87	8	5.9			5.6	65		.580		3.3		42	54.74	-12.74	40.14	41.55	-1.41	3.95	Buxar.			
97	6	10	15	22	9	19	14	5					71		.648		2.7		48	60.81	-12.81	30.88	49.36	-18.48	2.12	Bhagalpur.†			
166	6	10	72	56	5	10	28	12	2.2	3.6	-39		80	+0.6	.678	- .003	3.1	+0.2	52	58.35	-5.35	42.21	51.07	-8.86	2.98	Darbhanga.			
150	5	16	70	54	3	14	31	22	3.6			4.5	79		.676		1.7		46	55.27	-9.27	35.38	45.63	-10.25	2.81	Muzaffarpur.	UNITED PROVINCES (EAST)	18	
72	4	46	134	18	2	33	38	18	4.7			3.2	78		.666		2.5		57	55.74	+1.26	49.68	51.66	-1.98	3.98	Motihari.			
132		9	102	30	17	32	28	15	3.5				74		.632		2.9		39	52.29	-13.29	26.02	40.89	-14.87	2.15	Chapra.			
132	6	14	58	21	9	77	30	18	2.8	3.9	-28	3.2	68	-6.2	.602	- .023	3.0	-0.4	52	50.90	+1.10	49.55	40.99	+8.56	4.00	Benares.			
68	8	39	64	19	12	38	88	34	5.0	4.6	+9	5.0	65	-2.3	.573	- .021	3.4	-0.1	43	45.30	-2.30	47.13	40.73	-6.40	9.00	Allahabad.	UNITED PROVINCES (EAST SUBMONTANE) SOUTH OUDH.	23	
82	44	75	36	13	25	25	38	27	2.0	2.5	-20		74	-0.5	.631	- .011	4.4		59	54.10	+4.90	67.64	52.01	+15.63	7.03	Gorakhpur			
151	19	28	39	35	7	13	42	21	2.0	3.1	-35	2.2	66	-4.3	.566	- .026	2.4	-0.9	44	51.00	-7.00	44.61	38.89	+5.72	5.32	Lucknow.			
53	23	17	35	52	11	11	30	73	4.0	3.8	+5		80		.714		2.4	-0.4	53	50.40	+2.60	62.48	48.91	+13.57	5.13	Babraich.			
49	26	28	60	26	23	40	76	37	4.2				64	-2.7	.559	- .029	2.8	-0.1	38	43.00	-5.00	31.35	35.94	-4.59	2.88	Cawnpore.	UNITED PROVINCES (CENTRAL.)	21	
191	18	15	28	14	8	25	33	33					65	-1.2	.552	- .002	3.0	-0.3	37	36.10	-1.10	24.28	31.76	+2.52	7.20	Mainpuri.			
													63	-3.5	.492	- .021	2.7	-0.5				28.64	36.57	-6.93		VI.—Upper Sub-Himalayas			
134	13	13	73	22	6	24	50	30	1.6	3.5	-54	1.5	71	-1.2	.568	- .005	2.6	-0.4	43	47.17	-4.17	43.45	47.86	-4.41	6.55	Bareilly.			
209	8	10	13	22	21	24	30	26	1.4	1.8	-22		65	-4.7	.447	- .031	3.5	-0.5	64	80.90	-16.90	60.88	89.19	-28.31	6.09	Dehra Dun.†	UNITED PROVINCES (WEST SUBMONTANE)	22	
146	2	9	14	112	11	8	8	55	3.5	2.5	+40		68	-3.2	.498	- .025	2.5	-0.6	35	49.10	-14.10	37.83	43.22	-5.39	5.22	Roorkee.			

station, the data for that station are not utilized in calculating the provincial departures from normal.
the figure columns Nos. 41, 43 and 45 are derived are somewhat incomplete.

* Wind observations of 358 days.

† Wind observations of 197 days.

‡ Wind observations of 363 days.

Table

Abstract of Observations taken at 8 A.M.

Number of District.	METEOROLOGICAL PROVINCE OR DISTRICT.	STATION.	Elevation of barometer above sea-level in feet.	PRESSURE 8 A.M. IN INCHES.							TEMPERATURE OF AIR.											
				Mean 8 A.M. pressure (reduced to 32°).	Departure from normal.	Mean 3 A.M. pressure reduced to sea-level and to constant gravity, at 45° Lat.	Highest pressure recorded during year.	Lowest pressure recorded during year.	Absolute range during year.	Mean monthly range of pressure.	Mean of 8 A.M. temperature of year.	Mean maximum of year.	Departure from normal of year.	Mean minimum of year.	Departure from normal of year.	Yearly mean of mean between maximum and minimum.	Departure from normal of year.	Mean daily range of temperature.	Highest temperature observed during year.	Lowest temperature observed during year.	Absolute range during year.	Mean monthly absolute range.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
22	UNITED PROVINCES, WEST.	Meerut . . .	738	29'073	0	29'798	29'506	28'634	*872	*269	69'3	88'5	?	63'8	0	76'2	?	24'7	111'8	37'7	74'1	80'2
26	SOUTH EAST PUNJAB	Delhi . . .	718	29'101	+0'03	29'800	29'526	28'682	*844	*273	71'9	88'3	-0'7	67'9	+0'5	78'1	-0'1	20'4	112'2	41'0	71'2	36'9
28	CENTRAL PUNJAB	Lahore . . .	702	29'112	+0'10	29'806	29'560	28'653	*907	*329	69'0	88'2	-1'6	62'6	+1'7	75'9	+0'1	26'6	116'9	34'0	82'9	44'3
27	SOUTH PUNJAB	Sirsa . . .	662	29'162	+0'14	29'803	29'591	28'739	*852	*300	71'4	90'5	-1'5	64'3	+0'3	77'4	-0'6	26'2	117'3	35'0	82'3	44'6
		Patiala . . .	818	29'000		29'807	29'427	28'568	*859	*288	70'6	87'2		63'5		75'4		23'7	112'9	35'0	77'9	40'1
29	PUNJAB SUBMONTANE.	Ludhiana . . .	812	28'999	+0'06	29'805	29'437	28'564	*873	*306	69'1	87'4	-0'9	64'2	+0'5	75'8	-0'2	23'2	115'8	37'0	78'8	39'9
		Sialkot . . .	830	28'983	+0'13	29'808	29'428	28'514	*911	*326	68'7	88'2	+0'5	64'5	+1'9	76'4	+1'2	23'7	117'5	35'0	82'5	41'4
		Umbaila . . .	892	28'922	+0'14	29'806	29'367	28'500	*867	*281	69'4	88'8	+0'9						115'8			
		Rawalpindi . . .	1,674	28'152	+0'08	29'847	28'581	27'710	*871	*324	65'7	84'8	+0'5	57'9	+0'3	71'4	+0'4	26'9	116'0	30'0	86'0	45'5
	VII.—Indus Valley and North-West Rajputana.				+0'10							91'1	-0'3	64'9	-0'6	78'1	-0'5	26'2			82'7	43'9
32	NORTH WEST FRONTIER PROVINCE.	Peshawar . . .	1,110	28'733	+0'05	29'855	29'198	28'239	*959	*356	67'2	84'8	-0'7	58'8	-0'4	71'8	-0'6	26'0	117'5	30'9	86'6	43'5
		D. I. Khan . . .	590	29'248	+0'05	29'807	29'713	28'728	*985	*355	68'5	88'7	-1'7	61'4	-1'0	75'1	-1'4	27'3	118'2	33'0	85'2	44'6
31	WEST PUNJAB	Khushab . . .	612	29'215	?	29'815	29'696	28'717	*979	*352	70'8	88'9	-0'7	63'0	-0'7	76'0	-0'7	25'9	117'4	33'4	84'0	44'6
		Montgomery . . .	558	29'260	+0'16	29'800	29'719	28'810	*909	*342	72'2	90'8	-1'5	63'1	-1'2	77'0	-1'4	27'7	119'0	30'5	88'5	47'4
		Mooltan . . .	420	29'397	+0'03	29'798	29'880	28'915	*965	*354	71'0	91'9	0	65'4	+0'1	78'7	+0'1	26'5	118'9	38'0	80'9	43'5
47	SIND	Jacobabad . . .	186	29'644	+0'15	29'797	30'104	29'156	*948	*321	72'4	96'3	+0'7	64'4	-0'8	80'4	-0'1	31'9	123'5	32'0	91'5	49'1
		Hyderabad . . .	96	29'750	+0'08	29'802	30'214	29'286	*928	*294	74'2	93'9	+0'4	67'2	-1'1	80'6	-0'4	26'7	115'7	38'0	77'7	43'5
		Kurrachee . . .	30	29'854	+0'16	29'835	30'319	29'392	*927	*278	75'1	88'4	+1'1	70'4	+0'8	79'4	+1'0	18'0	114'4	38'6	75'8	34'9
51	WEST RAJPUTANA.	Bikaner . . .	771	29'058	+0'14	29'813	29'484	28'641	*843	*297	73'8	91'8	-0'4	68'4	-1'2	80'1	-0'8	23'4	117'8	37'1	80'7	42'3
		Pachpadra . . .	380	29'470?		29'816?	29'919	29'078	*841	*261	72'5	94'4	-0'5	64'5	-0'5	79'5	-0'5	30'0	116'0	34'0	82'0	47'6
		Jodhpur . . .	782	29'070		29'849	29'480	28'661	*819	*266	73'5	92'4		67'7		80'1		24'7	114'8	37'6	77'2	42'0
	VIII.—East Rajputana, Central India and Gujarat.				+0'06							90'1	-0'1	67'2	-0'2	78'7	-0'2	22'9			72'2	38'5
50	EAST RAJPUTANA	Jaipur . . .	1,431	28'425	+0'05	29'840	28'786	28'058	*728	*257	73'2	90'9	0	65'5	-0'1	78'2	-0'1	25'4	115'2	35'0	80'2	43'2
		Bharatpore . . .	585	29'246		29'807	29'706	28'837	*869	*281	71'8	90'6		66'0		78'4		24'6	115'3	38'2	77'1	40'5
		Kotah . . .	819	29'020		29'854	29'414	28'613	*801	*262	75'2	91'5		68'8		80'2		22'6	116'1	42'5	73'6	39'8
		Sambhar . . .	1,254	28'595	?	29'839	28'968	28'221	*747	*251	71'0	90'6	+0'5	64'6	-0'6	77'6	-0'1	26'0	115'5	35'0	80'5	44'0
		Ajmer . . .	1,611	28'246	?	29'854	28'606	27'871	*735	*253	70'3	88'1	-0'8	66'2	?	77'2	?	21'9	111'9	38'4	73'5	38'4
		Udaipur . . .	1,925	27'952		29'860	28'293	27'574	*719	*227	72'0	87'8		63'4		75'6		24'4	109'6	34'2	75'4	39'5
		Deesa . . .	466	29'405	+0'03	29'835	29'773	28'961	*812	*228	74'8	94'7	+0'9	66'9	-0'1	80'8	+0'4	27'8	113'6	35'5	78'1	44'1
46	KATHIAWAR AND CUCH.	Bhuj . . .	395	29'484	+0'15	29'839	29'864	28'993	*871	*238	75'5	90'8	-0'6	68'1	-0'6	79'4	-0'6	22'7	111'8	41'0	70'8	37'8
		Jamnagar . . .	61	29'830		29'837	30'197	29'297	*900	*228	74'6	89'6		67'4		78'5		22'2	111'8	39'7	72'1	37'3
		Rajkot . . .	429	29'464	+0'07	29'844	29'783	28'927	*856	*218	73'7	92'4	-0'6	65'2	-1'0	78'8	-0'8	27'2	110'4	37'1	73'3	43'1
		Veraval . . .	18	29'875	+0'05	29'835	30'178	29'345	*833	*216	75'3	84'9	-0'3	70'6	-0'3	77'8	-0'3	14'3	102'2	46'2	56'0	27'6
		Dwarka . . .	37	29'854		29'837	30'215	29'354	*861	*221	76'8	84'0		71'7		77'9		12'3	108'4	47'1	61'3	26'0
		Bhavnagar Para . . .	55	29'845		29'846	30'173	29'336	*837	*222	75'1	93'3	+0'4	68'0	?	80'7	?	25'3	111'7	43'0	68'7	40'5
49	CENTRAL INDIA	Nowgong . . .	757	29'078	-0'02	29'810	29'488	28'699	*789	*268	71'8	89'1	-0'6	65'9	+0'3	77'5	-0'2	23'2	114'0	37'5	76'5	39'3
		Indore . . .	1,823	28'054	+0'12	29'854	28'393	27'676	*717	*212	71'4	88'0	-0'1	62'7	-0'9	75'4	-0'5	25'3	109'3	37'6	71'7	39'4
		Neemuch . . .	1,630	28'244	+0'12	29'860	28'587	27'864	*723	*226	71'3	89'1	+0'2	64'0	-0'5	76'6	-0'2	25'1	112'1	36'8	75'3	40'2
45	GUJARAT	Surat . . .	39	29'855	0	29'837	30'144	29'347	*797	*212	76'0	91'5	-0'1	69'4	?	80'5	?	22'1	109'6	43'9	65'7	36'2
		Ahmedabad . . .	163	29'721	+0'03	29'835	30'068	29'257	*811	*217	76'7	94'3	+0'3	70'3	-0'5	82'3	-0'1	24'0	114'8	43'7	71'1	38'9
22	UNITED PROVINCES, WEST.	Agra . . .	555	29'274?	?	29'802?	29'704	28'861	*843	*285	72'9	89'7	-1'0	68'4	+0'7	79'1	-0'2	21'3	113'0	41'4	71'6	37'1
21	U. P., CENTRAL	Jhansi . . .	858	28'991	+0'05	29'821	29'396	28'611	*785	*272	74'9	91'3	+0'1	70'0	+1'0	80'6	+0'5	21'2	116'4	44'2	72'2	36'7

* Mean of 11 months.
 N.B.—Elevations in italics indicate barometrical determinations.

NOTE 1.—When a query is inserted against any reading or in the returns of any
 NOTE 2.—The data from which divisional means

I—contd.

at 229 stations in India, Burma, etc., in the year 1903—contd.

WIND DIRECTION.								WIND VELOCITY.				HYGROMETRY 8 A.M.				CLOUD.		RAINFALL.						STATION.	METEOROLOGICAL PROVINCE OR DISTRICT.	Number of District.			
Number of winds from								Mean daily velocity in miles per hour, instrumental errors uncorrected.	Normal (uncorrected).	Percentage departure from normal.	Mean velocity corrected (where possible.)	Mean humidity at 8 A.M. of year.	Departure from normal of year.	Mean vapour tension at 8 A.M. of year.	Departure from normal of year.	Mean cloud amount at 8 A.M. of year.	Departure from normal of year.	Number of rainy days during year.	Normal number of rainy days during year.	Departure from normal of year.	Rainfall of year.	Normal rainfall of year.	Departure from normal.						
Calm.	N.	N.E.	E.	S.E.	S.	S.W.	W.																	N.W.	33	34	35	36	37
151	8	6	52	22	1	27	76	22	1.5	2.2	-32	1.5	62	-4.0	.493	-.014	2.9	-.01	27	37.00	-10.00	25.55	32.07	-6.52	7.11	Meerut .	UNITED PROVINCES, WEST.	22	
83	15	11	17	50	8	8	106	67		3.6			54	-4.0	.470	-.020	2.7	-.07	25	37.10	-12.10	13.19	28.09	-14.90	1.37	Delhi .	SOUTH-EAST PUNJAB.	26	
173	31	20	25	47	12	1	24	32	2.3	2.5	-8		66	+1.2	.512	+0.09	2.5	-.02	22	22.90	-0.90	14.71	20.10	-5.39	2.68	Lahore .	CENTRAL PUNJAB.	28	
72	15	19	31	48	17	47	36	35	4.7	3.6	+31	4.3	60	+0.8	.514	+0.27	1.8	-1.5	18	23.40	-5.40	13.28	14.43	-1.15	3.20	Sirsa* .	SOUTH PUNJAB.	27	
29	48	20	43	99	18	10	27	71	5.3			5.3	65		.529		3.1		35			17.55			1.96	Patiala .			
126	14	39	9	85	3	17	37	35	2.7	1.5	+80	2.4	62	-4.1	.473	-.043	2.3	-1.3	26	32.70	+3.30	24.28	28.67	-4.39	2.65	Ludhiana .	PUNJAB (SUB-MONTANE).	20	
123	49	64	59	22	9	3	12	24	2.4	1.8	+33		63	-2.7	.483	-.027	2.2	-.03	33	40.70	-7.70	39.73	31.75	+7.98	5.80	Sialkot .			
212	1	6	18	63			6	59	3.8				67	-6.9	.520	-.037	3.0	?	35	36.90	-1.90	28.70	32.96	-4.26	3.13	Umballa .			
282	14	18	8	7	2	6	10	17	2.6	2.0	+30	2.4	58	-9.7	.399	-.061	3.4	+0.2	41	47.30	-6.30	24.51	33.98	-9.47	3.06	Rawalpindi .			
													56	-2.4	.503	-.009	2.0	-0.3				10.52	9.99	+0.53			VII.—Indus Valley and North-West Rajputana.		
237	25	12	4	5	16	14	23	29	1.5	3.4	-56	1.7	59	-4.2	.431	-.024	2.8	-.02	28	23.80	+4.20	12.09	13.09	-1.00	1.52	Peshawar .	NORTH WEST FRONTIER PROVINCE.	32	
220	27	60	1	12	2	4	1	38	1.6	1.8	-11	1.6	64	+0.1	.517	+0.01	2.3	+0.3	23	17.60	+5.40	19.82	8.51	+11.31	4.85	D. I. Khan .			
82	39	113	58	10	16	22	17	8	6.0			5.2	51	-4.1	.431	-.017	2.3	+0.1	24	18.00	+6.00	13.91	14.12	-0.21	1.70	Khushab .	WEST PUNJAB.	31	
51	32	42	37	61	43	45	22	32	6.6			5.8	48	-6.8	.417	-.058	2.0	-.02	19	16.10	+2.90	8.57	10.25	-1.68	1.48	Montgomery .			
169	18	45	5	74	6	33	3	12	1.5	2.5	-40	1.8	59	-1.1	.502	-.013	1.7	0	13	12.40	+0.60	7.42	7.30	+0.12	2.07	Mooltan .			
237	14	10	21	48	20	1	2	12	2.2	3.4	-35	2.2	63	+7.7	.599	+0.91	1.6	-.04	7	8.20	-1.20	3.22	3.78	-0.56	1.41	Jacobabad .	SIND.	47	
29	63	7		11	15	189		51	8.5	10.1	-16	8.8	55	-2.6	.513	-.016	1.8	-.09	12	9.70	+2.30	5.72	6.90	-1.18	1.96	Hyderabad .			
32	13	68	26	13	8	80	94	21	8.7	13.3	-35	10.9	68	-4.9	.659	-.019	2.5	-1.1	8	9.30	-1.30	4.58	8.26	-3.68	1.94	Kurrachee.†			
51	13	19	27	17	36	76	80	44	6.8	4.8	+42		51	-1.7	.491	-.008	2.1	-0.5	19	18.80	+0.20	10.26	11.29	-1.03	1.40	Bikaner‡	WEST RAJPUTANA.	51	
3	45	42	46	12	92	85	29	11	8.4	5.8	+45	7.3	55	-6.8	.523	-.027	0.4	?	14	19.10	-5.10	9.97	13.30	-3.33	2.47	Pachpadra .			
55	35	77	19	9	20	92	52	6	5.8			5.2	48		.447		2.9		18	20.30	-2.30	20.21	13.14	+7.07	3.77	Jodhpur .			
													62	-1.7	.560	-.008	2.8	-0.1				27.97	28.51	+0.14			VIII.—East Rajputana, Central India and Gujarat.		
90	33	48	24	5	9	37	69	50	3.7	5.1	-27		50	-7.6	.454	-.040	3.0	-0.2	31	37.80	-6.80	23.39	26.05	-2.66	5.16	Jaipur .	EAST RAJPUTANA	50	
187	7	16	19	17	8	24	53	34	3.2			2.9	71		.618		2.0		31			22.50			3.40	Bharatpore .			
88	26	20	12	15	8	64	64	68	5.1			4.1	50		.461		1.7		41	37.60	+3.40	35.59	29.92	+5.67	4.17	Kotah .			
166	33	25	16	8	8	7	69	33	5.9	6.7	-12		54	-3.4	.447	-.033	2.4	-0.5	32	31.30	+0.70	24.01	20.74	+3.27	2.73	Sambhar .			
149	3	28	3	17	3	54	69	39	5.9	4.3	+37	5.2	62	-1.4	.502	0	2.7	0	25	32.60	-7.60	18.28	21.80	-3.52	2.97	Ajmer .			
187	9	7	6	6	8	29	68	34	4.3			3.8	56		.474		2.3		38	34.10	+3.90	26.62			2.11	Udaipur. (a)			
	31	88	49	20	38	73	44	22	9.1	10.3	-12		53	-3.0	.510	-.014	2.7	-0.7	25	28.81	-3.81	19.52	24.12	-4.60	3.55	Deesa .			
	27	14	11	17	14	88	107	87	11.5	10.2	+13	9.7	70	?	.655	+0.44	2.7	-0.2	18	16.10	+1.90	16.38	14.52	+1.86	4.00	Bhuj .	KATHIAWAR AND Cutch.	46	
	18	47	32	19	63	107	68	11	14.1			17.0	67		.634		2.6		24			26.64			5.32	Jamnagar .			
37	16	18	50	12	17	61	107	47	8.5	9.2	-8	8.4	65	-2.4	.584	-.010	3.3	?	27	30.90	-3.90	22.95	28.13	-5.18	3.29	Rajkot .			
2	94	72	5	8	11	43	79	51	11.8	7.9	+49	11.8	70	-0.2	.652	-.014	3.7	-0.2	34	29.20	+4.80	24.64	18.24	+6.40	3.66	Veraval .			
	66	52	16	6	8	70	93	54	13.4				76		.737		3.1		26			25.20			5.45	Dwarka .			
1	29	12	1	8	10	97	58	149	6.5			6.2	58	-11.0	.561	-.098	3.2	-0.1	32	34.70	-2.70	23.71	19.76	+3.95	4.58	Bhavnagar Para .			
52	37	14	49	7	18	50	104	34	2.5	2.5	0	2.5	63	-2.7	.515	-.0307	3.9	?	41	50.70	-9.70	43.53	44.96	-1.43	9.74	Nowgong .	CENTRAL INDIA	49	
74	28	41	20	9	5	9	48	131	5.2	4.2	+24	4.2	67	+4.1	.551	+0.28	4.3	+0.9	48	45.30	+2.70	46.90	33.64	+13.26	17.42	Indore .			
26	40	86	21	4	6	67	77	38	7.9	10.1	-22	7.1	64	+6.4	.533	+0.31	3.0	+0.4	34	37.40	-3.40	38.64	30.08	+3.56	4.25	Neemuch .			
28	68	41	49	18	44	54	39	24	6.5	9.0	-28	5.6	66	-5.3	.643	-.0377	3.0	-0.4	57	47.40	+9.60	40.19	44.03	-3.84	4.93	Surat .	GUJARAT.	45	
	31	65	47	14	12	74	26	92	3.4			5.5	57	-2.7	.577	-.005	3.0	-0.6	31	37.20	-6.20	26.32	33.24	-6.92	3.18	Ahmedabad.§			
58	2	30		49	2	137		87	4.4	4.2	+5	5.2	58	-3	.509	-.024	2.7	-0.1	29	35.90	-6.30	24.16	28.42	-4.26	3.30	Agra .	UNITED PROVINCES, WEST.	22	
49	15	34	14	17	7	121	44	64	4.5	3.4	+32	5.0	63	+8.0	.577	+0.64	1.3	?	40	43.90	+3.90	35.24	38.51	-3.27	4.71	Jhansi .	UNITED PROVINCES, CENTRAL.	21	

station, the data for that station are not utilized in calculating the provincial departures from normal, of the figure columns Nos. 41, 58 & 45 are derived are somewhat incomplete.

* Wind observations of 320 days.

† Wind observations of 363 days.

‡ Wind observations of 355 days.

§ Wind observations of 361 days.

(s) Wind observations 364 days.

Abstract of observations taken at 8 A.M.

Number of District.	METEOROLOGICAL PROVINCE OR DISTRICT.	STATION.	Elevation of bar station above sea-level in feet.	PRESSURE 8 A.M. IN INCHES.							TEMPERATURE OF AIR.											
				Mean 8 A.M. pressure reduced to 32°.	Departure from normal.	Mean 8 A.M. pressure reduced to sea-level and to constant gravity at 45° Lat.	Highest pressure recorded during year.	Lowest pressure recorded during year.	Absolute range during year.	Mean monthly range of pressure.	Mean of 8 A.M. temperature of year.	Mean maximum of year.	Departure from normal of year.	Mean minimum of year.	Departure from normal of year.	Yearly mean of mean between maximum and minimum.	Departure from normal of year.	Mean daily range of temperature.	Highest temperature observed during year.	Lowest temperature observed during year.	Absolute range during year.	Mean monthly absolute range.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	IX.—Deccan.					+001						90.3	0	67.3	0	78.8	0	23.0			63.5	36.8
38	BOMBAY DECCAN.	Belgaum . . .	2,539	27.372	0	29.856	27.593	27.079	.514	.149	71.1	84.1	-0.4	63.8	-0.2	74.0	-0.3	20.3	102.3	49.9	52.4	31.9
		Sholapur . . .	1,590	28.303	-006	29.855	28.579	27.980	.599	.174	75.2	91.9	-1.1	68.3	+0.3	80.1	-0.1	23.6	108.7	50.1	58.6	36.7
		Poona . . .	1,840	28.060	-008	29.875	28.329	27.674	.655	.180	70.1	90.1	+0.7	63.9	-0.9	77.1	-0.1	26.2	108.1	44.5	63.6	39.8
		Bijapur . . .	1,948	27.952	-003	29.853	28.212	27.645	.567	.163	74.3	89.9	0	67.1	-0.4	78.5	-0.2	22.8	105.4	45.1	60.3	35.9
40	KHANDESH . . .	Malegaon . . .	1,430	28.452	-006	29.855	28.763	28.040	.723	.189	73.6	92.2	+0.0	64.9	-0.2	78.6	+0.2	27.3	110.3	42.3	68.0	41.8
		Ahmednagar . . .	2,152	27.761	+004	29.871	28.039	27.405	.634	.180	72.9	88.9	0	63.8	+0.2	76.3	-0.1	25.3	105.9	44.4	61.5	39.0
41	BERAR . . .	Akola . . .	930	28.945	+003	29.838	29.266	28.585	.701	.204	75.1	93.1	+0.3	66.6	-0.5	79.9	-0.1	26.5	114.5	43.9	70.6	42.1
		Amraoti . . .	1,215	28.656	+009	29.837	29.001	28.295	.706	.211	75.8	92.0	0	69.4	?	80.7	?	22.6	113.5	50.5	63.0	38.1
42	CENTRAL PROVINCES, WEST.	Khandwa . . .	1,044	28.824	+002	29.843	29.173	28.436	.737	.213	73.5	92.6	+0.8	66.5	-0.4	79.6	+0.2	26.1	114.2	41.6	72.6	43.0
		Hoshangabad . . .	1,006	28.870	+004	29.850	29.250	28.478	.772	.228	73.3	90.6	+0.4	66.7	-0.2	78.7	+0.1	23.9	111.4	42.7	68.7	37.0
		Nagpur . . .	1,025	28.834	+007	29.829	29.205	28.432	.772	.225	75.0	92.4	+0.3	68.7	-0.2	80.5	+0.1	23.7	114.2	49.2	65.0	37.3
43	CENTRAL PROVINCES, CENTRAL.	Chanda . . .	634	29.241	+012	29.829	29.595	28.866	.729	.219	75.5	93.0	+0.1	68.3	-0.3	80.7	-0.1	24.7	114.2	43.6	70.6	40.0
		Seoni . . .	2,033	27.831	+002	29.824	28.161	27.425	.736	.230	72.9	88.1	+0.3	64.6	-0.3	76.4	0	23.5	108.9	44.0	64.9	36.5
		Jubbulpore . . .	1,327	28.512	-004	29.823	28.876	28.053	.783	.253	70.5	88.5	+0.1	63.8	-0.7	76.2	-0.3	24.7	111.0	37.4	73.6	29.2
		Saugor . . .	1,807	28.055	?	29.835	28.415	27.688	.727	.244	72.7	87.7	-0.2	66.7	+0.5	77.2	+0.1	21.0	110.5	42.6	67.9	36.1
49	CENTRAL INDIA . . .	Sutna . . .	1,040	28.790	-003	29.807	29.183	28.402	.781	.266	72.8	88.8	+0.7	67.0	+1.4	77.9	+1.1	21.8	113.6	39.6	74.0	37.5
44	CENTRAL PROVINCES, EAST.	Raipur . . .	970	28.875	0	29.808	29.246	28.406	.840	.255	75.7	90.7	+0.2						112.5			
		Sambalpur . . .	486	29.370	+002	29.812	29.769	28.907	.862	.259	78.5	91.4	+0.4	70.2	+0.2	80.8	+0.3	21.2	112.6	45.7	66.9	35.4
39	HYDERABAD, NORTH.	Aurangabad . . .	1905	27.983		29.843	28.286	27.630	.656	.180	74.8	89.7		64.9		77.3		24.7	107.1	45.2	61.9	37.7
		Indur . . .	...	29.582			28.881	28.293	.588	.168	76.6	90.6		68.4		79.5		22.2	109.8	42.1	67.7	35.8
		Bidar . . .	2,165	29.730		29.840	27.976	27.393	.583	.195	75.1	88.1		68.8		73.5		19.3	105.3	51.7	53.6	31.4
53	HYDERABAD, SOUTH	Gulbarga . . .	1,503	29.361	-004	29.853	28.670	28.099	.571	.169	75.9	91.8	-0.6	69.1	+0.4	80.5	-0.1	22.7	107.8	50.6	57.2	35.3
		Raichur . . .	1,326	28.562	-001	29.848	28.838	28.280	.558	.167	76.8	91.0	-1.1	71.6	-0.1	81.3	-0.6	19.4	107.0	57.2	49.8	31.6
		Hyderabad (Dn.) . . .	1,690	28.194	-003	29.844	28.484	27.885	.599	.184	74.8	89.8	-0.9	68.7	+1.4	79.3	+0.3	20.1	107.4	49.3	58.1	33.1
		Secunderabad . . .	1,787	28.100	?	29.848	28.395	27.794	.601	.179	74.0	90.7	?	69.0	+0.8	79.9	?	21.7	108.3	48.7	59.6	35.8
		Hanumkonda . . .	871	28.997		29.823	29.323	28.652	.671	.204	76.6	90.9		71.5		81.2		19.4	109.7	52.2	57.5	33.7
27	X.—West Coast.					-004						85.7	-0.3	74.3	0	80.0	-0.2	11.3			35.9	19.8
	KONKAN . . .	Bombay . . .	37	29.868	-006	29.845	30.120	29.416	.704	.191	77.2	85.5	-0.1	74.3	-0.6	79.9	-0.4	11.2	93.5	56.0	37.5	21.1
		Ratnagiri . . .	110	29.802	+008	29.852	30.042	29.455	.587	.174	77.5	86.1	-1.4	72.7	-0.4	79.4	-0.9	13.4	94.8	59.0	35.8	23.5
		Mormugao . . .	60	29.861	+001	29.856	30.076	29.570	.506	.161	77.6	85.5	-0.8	74.6	-0.4	80.1	-0.6	10.8	94.0	61.3	32.7	19.8
		Goa . . .	199								78.2	83.4	?	75.7	?	76.3	?	7.7	89.5	65.0	24.5	16.7
		Karwar . . .	44	29.873	-006	29.850	30.062	29.612	.450	.159	76.2	85.9	-0.3	72.3	-0.4	79.1	-0.4	13.6	93.3	57.5	35.8	23.6
23	MALABAR . . .	Cochin . . .	10	29.924	-006	29.862	30.064	29.742	.322	.126	79.1	88.4	+0.8	75.4	+0.6	81.9	+0.7	13.0	96.3	68.7	27.6	19.5
		Calicut . . .	27	29.903	-008	29.860	30.060	29.674	.386	.147	78.3	86.6	-0.4						94.4	66.2	28.2	
		Mangalore . . .	65	29.858	-014	29.855	30.012	29.617	.396	.141	78.4	86.0	-1.1	74.3	+0.1	80.2	-0.5	11.7	96.2	65.0	31.2	19.6
		Trivandrum . . .	198	28.729	+001	29.859	29.880	29.582	.298	.125	78.1	84.5	+0.5	75.3	+1.2	79.9	+0.9	9.2	90.0	68.0	22.0	14.7
57	XI.—South India.					-004						89.8	-0.6	72.4	+0.4	81.1	0	17.4			44.2	28.2
	MADRAS, SOUTH	Pamban . . .	37	29.882		29.846	30.080	29.707	.373	.146	82.3	88.5		78.3		82.4		10.2	94.8	70.7	24.1	17.6
		Tinnevely . . .	168	29.753	0	29.851	29.958	29.586	.372	.141	81.9	94.4	+0.1	76.5	-0.1	85.5	0	17.9	105.0	67.9	37.1	27.7
		Madura . . .	447	29.464	0	29.849	29.681	29.273	.408	.140	80.7	93.1	-0.9	74.1	+0.3	83.6	-0.3	19.0	102.5	65.1	37.4	28.4
		Periyakulam . . .	945	28.971			29.187	28.773	.414	.139	77.4	91.7		70.5		79.8		21.2	102.1	57.4	44.7	22.4
34	MADRAS, SOUTH CENTRAL.	Salem . . .	940	28.989	-017	29.876	29.208	29.763	.425	.144	77.9	91.9	-1.1	71.3	+1.1	81.9	0	20.1	105.2	58.8	46.4	30.9
		Coimbatore . . .	1,348	28.572	-004	29.874	28.795	28.374	.421	.139	75.8	89.6	-0.7	70.5	+0.9	80.1	+0.1	19.1	101.9	59.3	42.6	28.6
35	COORG . . .	Mercara . . .	3,781	26.236	?		26.287	26.060	.327	.126	65.6	76.6	+0.1	61.0	-0.3	68.8	-0.1	15.6	92.0	51.1	40.9	25.0

* Mean of 10 months.

† " " " "

N.B.—Elevations in italics indicate barometrical determinations.

NOTE 1.—When a query is inserted against any reading or in returns of any

NOTE 2.—The data from which divisional means

I—contd.

at 229 stations in India, Burma, etc., in the year 1903—contd.

WIND DIRECTION.									WIND VELOCITY.				HYGROMETRY 8 A.M.				CLOUD.		RAINFALL.						rainfall Heaviest during year.	STATION.	METEOROLOGICAL PROVINCE OR DISTRICT.	Number of District.	
Number of winds from									Mean daily velo- city in miles per hour, instru- mental errors uncorrected.	Normal (uncor- rected).	Percentage depar- ture from normal.	Mean velocity corrected (where possible).	Mean humidity at 8 A.M. of year.	Departure from normal of year.	Mean vapour tension at 8 A.M. of year.	Departure from normal of year.	Mean cloud amount at 8 A.M. of year.	Departure from normal of year.	Number of rainy days during year.	Normal number of rainy days during year.	Departure from normal of year.	Rainfall of year.	Normal rainfall of year.	Departure from normal of year.					
Calm.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.																	33	34	35	36	37
21	25	26	27	28	29	30	31	32																					
117	15	22	34	19	12	63	76	13	12.4	15.7	-21		63	-1.8	547	-0.18	3.6	-0.1				44.43	39.99	+3.67					
14	9	60	26	48	8	51	57	92	9.3	8.9	+4	11.3	71	+0.7	542	+0.05	4.7	+0.4	83	83.30	-0.30	42.79	50.13	-7.34	4.00	Belgaum	BOMBAY, DECCAN.	38	
													57	+1.7	499	-0.04	4.3	+0.3	53	42.00	+11.00	43.32	30.96	+12.34	3.33	Sholapur.			
													66	+3.5	504	-0.03	3.5	-0.1	44	49.60	-5.60	21.42	27.89	-5.47	1.37	Poona.			
25	45	34	20	23	34	59	72	53					69	?	593	?	3.7	-0.2	45	42.40	+2.60	29.41	24.58	+4.83	3.39	Bijapur.			
82	41	36	2	23	13	27	46	95	6.9	7.2	-4	7.9	54	-9.2	480	-0.85	4.4	+0.9	36	34.90	+1.10	25.20	24.08	+1.12	4.11	Malegaon	KHANDESH.	40	
108	3	15	22	12	2	25	88	90	7.2			8.8	63	-4.2	526	-0.38	4.0	+0.7	54	39.60	+14.40	33.83	22.42	+11.41	3.48	Ahmednagar.			

station, the data for that station are not utilized in calculating the provincial departures from normal. of the figure columns Nos. 41, 43 and 45 are derived are somewhat incomplete.

† Wind observations of 363 days.

*Wind observations of 364 days.

Table

Abstract of observations taken at 8 A. M.

Number of District.	METEOROLOGICAL PROVINCE OR DISTRICT.	STATION.	Elevation of bar elevation above sea-level in feet.	PRESSURE 8 A.M. IN INCHES.							TEMPERATURE OF AIR.											
				Mean 8 A.M. pressure reduced to 32°.	Departure from normal.	Mean 8 A.M. pressure reduced to sea-level and to constant gravity at 45° Lat.	Highest pressure recorded during year.	Lowest pressure recorded during year.	Absolute range during year.	Mean monthly range of pressure.	Mean of 8 A.M. temperature of year.	Mean maximum of year.	Departure from normal of year.	Mean minimum of year.	Departure from normal of year.	Yearly mean of mean between maximum and minimum.	Departure from normal of year.	Mean daily range of temperature.	Highest temperature observed during year.	Lowest temperature observed during year.	Absolute range during year.	Mean monthly absolute range.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
36	MYSORE . . .	Chitaldroog . . .	2,405	27.519	-.004	29.854	27.730	27.276	.454	.149	73.5	86.0	-0.5	67.5	+0.4	76.8	-0.1	18.5	103.2	52.4	50.8	29.0
		Bangalore . . .	3,021	26.940	-.008	29.876	27.135	26.742	.363	.135	70.3	84.3	+0.1	64.8	+0.7	74.6	+0.4	19.5	98.3	51.4	46.9	30.1
		Hassan . . .	3,091	26.879	-.004	26.891	27.069	26.663	.406	.133	70.7	82.6	-0.1	62.9	+0.7	72.8	+0.3	19.8	96.4	48.5	47.9	30.0
		Mysore . . .	2,518	27.433	-.005	29.883	27.615	27.229	.386	.139	72.0	86.1	-0.3	66.0	+0.3	76.1	0	20.2	99.6	53.4	46.2	29.9
56	MADRAS, EAST COAST, SOUTH.	Negapatam . . .	31	29.873	-.007	29.833	30.089	29.664	.425	.146	81.8	88.9	-0.7	77.2	+1.3	83.1	+0.4	11.7	101.1	68.0	33.1	22.8
		Cuddalore . . .	12	29.898	?	29.889	30.143	29.683	.460	.159	80.5	89.5	-1.0	74.8	+0.6	82.2	-0.2	14.7	101.7	65.7	36.0	25.5
		Trichinopoly . . .	255	29.660	-.004	29.850	29.872	29.468	.404	.143	80.0	93.5	-0.9	74.5	+0.4	84.0	-0.3	19.9	105.7	63.4	42.3	28.2
		Madras . . .	22	29.879	-.009	29.832	30.141	29.647	.494	.170	80.4	89.7	-1.3	74.9	+0.2	82.3	-0.6	14.8	103.0	65.5	37.5	28.1
		Vello . . .	707	29.192		29.844	29.445	28.373	.472	.186	77.9	91.3		72.1		81.7		19.1	106.8	58.4	48.4	31.3
55	MADRAS, EAST COAST, CENTRAL.	Nellore . . .	71	29.822	?	29.828	30.117	29.579	.538	.190	80.3	93.0	-1.3	75.3	+0.2	84.2	+0.6	17.7	107.8	64.1	43.7	28.3
		Masulipatam . . .	15	29.879	+0.006	29.829	30.215	29.577	.638	.203	79.8	89.2	-1.3	74.6	+0.2	81.9	-0.6	14.6	105.7	60.7	45.0	25.8
54	MADRAS, CENTRAL.	Cuddapah . . .	433	29.462	-.010	29.837	29.742	29.212	.530	.179	80.9	95.0	-0.4	74.2	-0.2	84.6	-0.3	20.8	112.3	57.8	54.5	28.9
		Kurnool . . .	945	28.945	-.004	29.842	29.220	28.672	.548	.171	77.5	93.2	-0.6	70.7	+0.2	82.0	-0.2	22.5	109.3	48.2	61.1	35.5
		Bellary . . .	1,475	28.424	-.004	29.853	28.675	28.157	.518	.165	76.7	93.0	0	71.3	+0.8	82.2	+0.4	21.7	108.5	53.1	55.4	34.1
52	MADRAS, EAST COAST, NORTH.	Cocanada . . .	26	29.858	+0.001	29.819	30.197	29.505	.682	.215	79.5	89.1	-0.4	74.9	-0.1	82.0	-0.2	14.2	103.6	58.5	45.1	26.8
		Waltair (Vizag.) . . .	226	29.644	-.001	29.812	29.986	29.247	.739	.236	79.8	86.6	?	75.1	?	80.9	?	11.5	99.9	62.4	37.5	20.7
		Gopalpur . . .	21	29.839	+0.008	29.800	30.226	29.364	.862	.257	78.5	85.7	-0.2	73.5	+0.2	79.6	0	12.2	98.3	54.5	43.8	23.2
XII.—Hill Stations.																						
48	BALUCHISTAN . . .	Pishin . . .										73.2		38.7		56.0		34.5	99.4	8.0	91.4	53.6
		Quetta . . .	5,502	24.652	+0.032		24.916	24.393	.523	.257	52.8	71.5	-1.9	42.7	-1.8	57.1	-1.9	28.8	95.6	9.3	86.3	48.7
		Chaman . . .	4,311	25.683	+0.011		25.960	25.366	.582	.300	61.4	76.7	-2.7	51.9	-2.5	64.3	-2.6	24.8	109.2	17.6	91.6	46.2
30	PUNJAB . . .	Leh . . .	11,503	19.703	0		20.069	19.267	.802	.345	34.8	51.9	-3.6	27.7	-2.1	39.8	-2.9	24.2	78.6	-3.1	81.7	42.7
		Srinagar . . .	5,204	24.893	+0.065		25.232	24.487	.745	.309	48.6	65.1	-0.8	44.1	+0.1	54.6	-0.4	21.0	92.8	17.6	75.2	37.9
		Senemang . . .	8,764	21.834			22.005	21.540	.465	.286	33.8	52.4		28.2		40.3		24.2	79.9	-5.6	85.5	43.8
		Skardu . . .	7,505	22.876			23.314	22.468	.846	.408	45.0	60.3		39.2		49.8		21.1	94.1	-1.9	96.0	39.9
		Dras . . .	10,059	20.850			21.090	20.421	.669	.347	31.0	48.4		21.8		39.1		26.6	83.0	-30.9	113.9	54.2
		Gilgit . . .	4,890	25.147			25.646	24.678	.968	.443	57.4	70.7	-2.1	51.3	-2.0	61.0	-2.1	19.4	104.5	25.1	79.4	37.0
		Chitral . . .	5,456	24.586			24.850	24.100	.750	.194	53.1	70.6		46.1		58.4		24.5	102.2	25.0	77.2	41.3
		Killa Dnosh . . .									54.5	70.6		50.9		60.8		19.6	102.2	25.3	76.9	38.1
		Murree . . .	6,333	23.833	+0.063		24.056	23.582	.424	.259	55.4	63.7	-2.1	47.4	-3.4	55.6	-2.8	16.3	92.4	22.0	70.4	36.6
		Kailang . . .	10,087	20.959			21.218	20.669	.549	.311	36.8	53.6	-1.8	30.1	-1.8	42.9	-1.8	23.5	80.0	-1.0	81.0	43.4
		Poo . . .									61.7			41.0		51.4		20.7	85.7	11.1	74.6	39.8
		Simla . . .	7,224	23.104	+0.014		23.278	22.894	.384	.221	53.4	60.8	0	49.7	-0.2	55.3	-0.1	11.1	83.4	23.3	60.1	28.5
	NORTH-WEST FRONTIER PROVINCE.	Para Chinari . . .	6,000	24.454			24.720	24.159	.561	.282	56.4	69.1		47.1		58.1		22.0	97.1	17.0	80.1	39.3
		Cherat . . .	4,266	25.684	+0.015		25.979	25.340	.639	.296	61.0	72.7	-1.0	56.1	-0.6	64.4	-0.8	16.6	105.4	29.0	76.4	36.8
25	UNITED PROVINCES	Chakrata . . .	7,022	23.268	+0.004		23.467	23.050	.417	.204	53.7	64.1	-0.1	49.8	+0.1	57.2	0	14.6	83.6	24.9	58.7	31.1
		Mussoorie . . .	6,705	23.541	+0.008		23.752	23.326	.426	.211	55.3	63.5	-0.6	50.5	-0.2	57.0	-0.4	13.0	88.3	27.0	61.3	29.7
		Ranikhet . . .	6,069	24.090	+0.013		24.335	23.810	.485	.214	57.9	68.2	+0.3	53.4	0	60.8	+0.2	14.8	89.1	30.0	59.1	30.8
		Muktesar . . .	7,600	22.841			23.038	22.637	.401	.206	54.5	64.6		48.2		56.4		16.3	85.8	24.7	61.1	28.9
13	BENGAL . . .	Yatung . . .	10,480								54.4			35.5		44.9		18.9	73.1	10.9	62.2	31.2
		Darjeeling . . .	7,376	23.005	-.001		23.178	22.638	.540	.218	52.2	59.4	+1.0	47.5	0	53.5	+0.5	11.9	71.7	30.1	41.6	22.0

N.B.—Elevations in italics indicate barometrical determinations.

NOTE 1.—When a query is inserted against any reading or in returns of any
NOTE 2.—The data from which divisional means

ANNUAL SUMMARY, 1903.

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at 229 stations in India, Burma, etc., in the year 1903—contd.

WIND DIRECTION.									WIND VELOCITY.				HYGROMETRY & A.M.				CLOUD.		RAINFALL.								STATION.	METEOROLOGICAL PROVINCE OR DISTRICT.	Number of District.
Number of winds from									Mean daily velocity in miles per hour, instrumental errors uncorrected.	Normal (uncorrected).	Percentage departure from normal.	Mean velocity corrected (where possible).	Mean humidity at 8 a.m. of year.	Departure from normal of year.	Mean vapour tension at 8 a.m. of year.	Departure from normal of year.	Mean cloud amount at 8 a.m. of year.	Departure from normal of year.	Number of rainy days during year.	Normal number of rainy days during year.	Departure from normal of year.	Rainfall of year.	Normal rainfall of year.	Departure from normal of year.	Heaviest rainfall during year.				
Calm.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.																		33	34	35	36
35	5	16	50	26	5	80	117	31	6.8			5.9	73	+3.4	.597	+0.21	5.0	-0.1	63	48.50	+14.50	38.43	26.33	+12.10	3.31	Chitaldroog.	Mysore.	56	
9	10	35	52	36	21	91	88	23	8.9	5.2	+ 71	7.7	80	+2.2	.594	+0.14	5.2	+0.2	81	58.60	+22.40	51.25	35.06	+16.19	3.94	Bangalore.			
26	6	45	56	31	13	40	93	55	3.4			3.0	79	+2.7	.590	+0.16	6.0	+0.4	87	68.20	+18.80	50.96	35.09	+15.87	5.66	Hassan.			
5	7	42	40	18	18	132	86	17	8.5			9.1	80	+3.8	.626	+0.25	6.7	+1.4	82	55.90	+26.10	51.02	30.91	+20.11	3.34	Mysore.			
109	7	39	13	24	6	72	72	23	6.8	5.6	+ 21	6.0	76	+0.5	.833	+0.25	5.1	-0.3	65	58.20	+6.80	60.76	55.56	+5.20	4.54	Negapatam.	MADRAS, EAST COAST, SOUTH.		
291	3	5	2	7	11	21	11	12	2.5			2.2	84	+1.3	.877	+0.19	6.2	+1.0	54	56.30	-2.30	38.72	52.58	-13.86	2.64	Cuddalore. (a)			
212	11	20	2	1	3	41	51	19	4.3	5.8	- 26		77	+5.5	.781	+0.50	3.9	-1.0	56	44.60	+11.40	40.63	32.54	+ 8.09	2.90	Trichinopoly.			
1	47	18	18	20	108	76	54	23	6.0	7.1	- 15		81	+4.9	.836	+0.31	4.7	-0.4	70	83.70	-13.70	78.51	50.39	+28.12	6.18	Madras.			
195	7	14	6	18	10	23	22	70	2.7			2.7	78		.738		3.6		77	54.90	+22.10	66.99	38.47	+28.5	5.78	Vellore.			
80	19	8	3	49	59	8	26	113	5.3				77	+0.7	.798	-0.11	4.6	-0.4	51	42.40	+ 8.60	57.49	30.73	+26.76	9.96	Nellore.	MADRAS, EAST COAST, CENTRAL.	55	
69	46	24	8	36	43	33	52	54	6.8	7.0	- 3	6.6	85	+3.3	.870	+0.26	5.3	+0.5	71	51.00	+20.00	62.17	40.91	+21.26	3.85	Masulipatam.			
	3	46	30	72	5	46	86	77					69	+1.5	.721	+0.15	4.3	0	64	43.70	+20.30	48.28	32.69	+15.59	3.96	Cuddapah.	MADRAS, CENTRAL.	54	
83	8	13	10	24	14	99	61	53	7.2				74	+8.1	.695	+0.70	4.1	+0.3	50	47.60	+ 2.40	34.45	28.40	+ 6.05	3.19	Kurnool.			
60	17	13	15	25	26	26	101	82	6.2	6.5	- 5	6.6	68	+6.0	.625	+0.45	4.8	+0.1	46	34.30	+11.70	29.06	19.73	+ 9.33	6.38	Bellary.			
114	33	44	4	9	4	74	48	35	7.3			6.1	84	+9.4	.862	+1.02	5.1	+0.4	80	53.90	+26.10	52.46	39.84	+12.62	3.80	Cocanada.	MADRAS, EAST COAST, NORTH.	52	
13	5	78	22	6	12	223	5	1	12.4				73	+0.4	.754	-0.13	5.7	+0.9	50	49.60	+ 0.40	30.67	43.54	-12.87	2.56	Waltair (Vizag.)			
23	90	3	2	1	56	97	17	76	13.6	9.6	+ 42	13.3	83	+1.6	.827	+0.43	2.5	p	53	55.20	-2.20	42.62	47.53	- 4.91	3.40	Gopalpur.			
XII.—Hill Stations.																													
328	4	2	2	13	8	1	5	2	2.0	4.1	- 51	2.1	56	+8.1	.285	-0.02	1.6	-0.3	28	23.20	+4.80	13.16	9.98	+ 3.18	2.16	Pishin.	BALUCHISTAN.	48	
17	20	18	83	79	62	52	15	9	6.3			6.9	47	+2.7	.286	-0.01	1.5	-0.5	18	26.80	+2.20	11.73	10.68	+ 1.05	1.50	Quetta.			
	9	62	69	20	98	60	40	7	2.1				48	-3.8	.122	-0.09	4.7	-0.1	12	9.30	+ 2.70	4.09	3.00	+ 1.18	1.03	Chaman.			
96	29	14	7	57	79	19	13	46	4.0			3.7	88	+1.6	.340	-0.15	4.7	+0.1	69	56.50	+12.50	35.63	24.74	+10.89	0.66	Leh.	PUNJAB		
215	3	42	50	26	7	4	13	5	3.1			2.8	93		.200		4.0		118			89.79			4.35	Srinagar (b)			
182	19	38	23	6	12	32	43	9	4.5			4.6	71		.210		4.6		20	17.00	+ 3.00	8.55	10.45	- 1.90	1.2	Skardu.			
288	6	9	2	6	7	16	28	3	3.7			3.0	78		.164		4.2		49	61.10	-12.10	18.62	24.53	- 5.91	1.49	Dras.			
313		1	4	5	1	18	22	1	3.1			2.8	52	+1.0	.251	-0.18	5.4	+0.6	18	14.00	+ 4.00	4.95	4.80	+ 0.15	0.64	Gitgit.			
320	6	6	7	8	6	2	8						68		.284		2.0		48			22.72			2.00	Chitral. (a)			
275	9	4	45	5	16	4	7						61		.285		2.8		48			22.75			1.55	Killa Droesh.			
191	22	6	12	67	36	8	5	18	6.2	6.8	- 9	6.7	55	+0.4	.258	-0.05	3.2	-0.6	75	77.30	- 2.30	50.64	55.85	- 5.21	3.50	Murree			
	15	14	27	60	55	72	81	41	1.2				71		.182		4.7		46			24.48	22.84	+ 1.64	2.09	Kailang.			
249	6	10	20	27	8	18	16	7		2.2							3.9		37			15.03	18.56	- 3.53	1.27	Poo §			
92	129	16	1	25	98	1	1	1					55	-2.5	.246	-0.14	4.1	-0.1	81	80.10	+0.90	53.81	63.59	- 9.78	4.89	Simla.			
211	23	25	19	16	27	10	21	13	5.6			5.1	53		.257		3.5		59	58.20	+ 0.20	28.30	25.17	+ 3.13	2.42	Para Chinaz.	NORTH-WEST FRONTIER PROVINCE.	25	
75	161	11		12	35	8	11	51	6.8			6.3	47	-5.7	.281	-0.38	1.9	-1.2	40			21.93	24.43	- 2.50	2.35	Cherat.†			
92	144	21	5	28	37	3		35	8.5	5.1	+ 67		60	-3.6	.272	-0.19	2.9	-0.5	75	88.00	-13.00	76.91	70.71	+ 6.20	9.08	Chakrata.	UNITED PROVINCES.		
11	14	51	99	23	11	15	89	51					61	-4.1	.294	-0.17	3.6	-0.3	79	87.60	- 8.60	78.68	96.26	-17.58	7.13	Mussooree.†			
210	6	25	21	8	3	39	30	23	2.3	2.1	+ 10	2.7	62	-4.8	.320	-0.22	3.2	-0.7	69	79.70	-10.70	87.37	54.52	-17.15	3.42	Ranikhet.			
83	22	7	39	83	19	7	29	76	6.1			5.6	58		.269		3.8		79			35.36			1.64	Muktesar.		31	
																			125	125.25	- 0.25	53.25	49.48	+3.77	2.46	Yatung	BENGAL.		
138	11	62	36	39	7	18	39	15	4.7	3.7	+ 27	4.3	81	-5.6	.338	-0.19	4.1	-1.9	115	121.09	-6.09	100.66	124.38	-23.72	6.61	Darjeeling.			

Station, the data for that station are not utilized in calculating the provincial departures from normal.
of the figure columns Nos. 41, 43, and 45 are derived are somewhat incomplete.

§ Mean of 11 months.

† Wind observations of 364 days.

§ " " " 361 "
(a) " " " 363 "
(b) " " " 360 "

Table

Abstract of observations taken at 8 A.M.

Number of District.	METEOROLOGICAL PROVINCE OR DISTRICT.	STATION.	Elevation of bar station above sea-level in feet.	PRESSURE 8 A.M. IN INCHES.							TEMPERATURE OF AIR.											
				Mean 8 A.M. pressure reduced to 32°.	Departure from normal.	Mean 8 A.M. pressure reduced to sea-level and to constant gravity at 45° lat.	Highest pressure recorded during year.	Lowest pressure recorded during year.	Absolute range during year.	Mean monthly range of pressure.	Mean of 8 A.M. temperature of year.	Mean maximum of year.	Departure from normal of year.	Mean minimum of year.	Departure from normal of year.	Yearly mean of mean between maximum and minimum.	Departure from normal of year.	Mean daily range of temperature.	Highest temperature observed during year.	Lowest temperature observed during year.	Absolute range during year.	Mean monthly absolute range.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
8	ASSAM HILL TRACTS.	Shillong . .	4,920	25.126			25.377	24.839	.538	.205	61.0	70.7		53.7		62.2		17.0	84.2	31.5	52.7	28.1
		Cherra Poonjee . .	4,309	25.684			25.917	25.394	.523	.213	62.0	68.3		57.7		63.0		10.6	80.2	42.0	38.2	21.7
	CENTRAL INDIA.	Mount Abu . .	3,945	26.029	+ .001		26.284	25.687	.597	.211	67.6	75.5	-0.6	62.1	+0.1	68.8	-0.3	13.4	94.2	36.0	58.2	28.8
		Pachmarhi . .	3,528	26.429	+ .002		26.693	26.096	.597	.216	68.6	80.8	+1.3	60.9	-0.3	70.8	+0.5	19.9	101.2	36.7	64.5	33.6
	SOUTH INDIA.	Wellington* . .	6,200	24.247	- .003		24.398	24.090	.308	.111	61.9	71.5	+0.7	53.6	0	62.6	+0.4	17.9	81.2	36.7	44.5	29.6
		Kodaikanal . .	7,688	22.831			22.951	22.690	.261	.110	57.1	64.7		51.4		56.6		13.3	74.5	42.7	31.8	21.5
		Ootacamund . .	7,322	23.063			23.187	22.823	.364	.114	57.9	65.6		49.7		57.6		15.9	74.5	34.1	40.4	26.8
XIII.—Extra India.																						
CEYLON . .		Trincomalee . .	12	29.904	†	29.842	30.069	29.734	.335	.129	79.8	88.7	+0.2	76.4	0	82.6	+0.1	12.3	96.5	70.0	26.5	19.6
		Colombo . .	40	29.897	- .008	29.862	30.038	29.762	.276	.129	80.8	88.5	+1.5	75.8	+0.3	82.2	+0.9	12.7	94.0	68.5	25.5	19.6
PERSIA . .		Mesherd . .	3,104								55.1			44.2	-1.6					-4.0		
		Teheran . .	4,002	25.919§			26.390	25.500	.890	.436	58.5	72.3	-0.8	49.7	-1.3	61.0	-1.0	22.5	104.1	16.1	88.0	41.8
		Ispahan . .	5,817	24.299§			24.580§	23.850§	.700	.353	54.5	72.5	-1.7	42.2	-3.0	57.3	-2.4	30.3	101.8	10.6	91.2	47.5
		Bushire . .	14	29.880	+ .018	29.853	30.376	29.389	.987	.343	72.8	80.9	-1.3	67.4	-1.1	74.2	-1.2	13.5	108.5	41.8	66.7	32.0
		Bahrein . .	30	29.872			30.370	29.416	.954	.323	76.0	83.6		73.0*		79.0*		12.0*	107.5	45.8	61.7	26.0
		Jask . .	13	29.876	+ .008	29.846	30.366	29.395	.971	.345	77.9	85.8	-0.8	72.9	-0.5	79.4	-0.6	12.9	104.7	49.8	54.9	27.4
ARABIA . .		Muscat . .	20	29.837	- .022	29.804	30.402	29.345	1.057	.339	80.3	82.5	-0.9	78.2	-0.5	80.4	-0.7	4.3	103.2	61.1	42.1	15.7
		Baghdad . .	220	29.800	+ .008	30.002	30.314	29.314	1.000	.405	66.8	86.5	+1.5	60.2	+0.8	73.4	+1.2	26.3	121.0	29.5	91.5	43.4
		Busrah . .		29.921			30.488	29.361	1.127	.388		84.4		63.2		73.8		21.2	114.4	33.0	81.4	39.1
		Aden . .	94	29.835	+ .010	29.861	30.124	29.518	.606	.187	81.4	87.6	-0.6	78.0	+0.3	82.8	-0.2	9.6	98.3	67.9	30.4	18.7
		Perim . .	201	29.701	+ .012	29.835	29.965	29.433	.532	.164	83.0	89.2	-0.6	79.4	+0.3	84.3	-0.2	9.8	101.3	67.6	33.7	16.8
		Kahul* . .									48.5	68.4	-3.3	38.2	-4.3	53.3	-3.8	30.2	98.1	0.4	97.7	48.2
CENTRAL ASIA.		Kashgar* . .	4,255	25.564			26.140	25.220	.920	.469	51.6	69.2	0	43.9	-2.3	56.6	-1.1	25.3	99.1	-3.2	102.3	46.2
ARABIAN SEA ISLANDS.		Amini Divi . .	13	29.927	0	29.868	30.099	29.699	.400	.141	83.1	87.5	+1.3	77.3	+0.2	82.4	+0.8	10.2	95.4	67.1	28.3	18.7
		Minicoy† . .	7	29.937		29.869	30.073	29.762	.311	.129	82.3	86.4	-0.2						91.7			
AFRICA . .		Zanzibar . .	73	29.983	- .008	29.983	30.186	29.819	.367	.138	79.1	84.4	+0.8	76.8	+0.3	80.6	+0.6	7.6	91.6	69.6	22.0	13.7
		Do. Dunga . .	184	29.919*			30.089	29.702	.387	.158	77.1	86.6		72.0		79.3		14.6	94.5	62.7	31.8	23.1
STRAITS SETTLEMENTS.		Penang‡ . .	20	29.913		29.858	29.987	29.812	.175	.108	81.7	89.5		74.1		81.9		15.4	94.0	72.0	22.0	19.3
		Singapore‡ . .	10	29.927		29.859	30.087	29.808	.279	.130	82.6	86.7		74.3		80.5		12.4	91.5	70.0	21.5	18.9

N.B.—Elevations in italics indicate barometrical determinations.

NOTE.—When a query is inserted against any reading or in the returns of any.

* Mean of 11 months.
† Mean of 10 months.
‡ Nine hours' observations.
§ Aneroid uncorrected.

I—concl'd.

at 229 stations in India, Burma, etc., in the year 1903—concl'd.

WIND DIRECTION.									WIND VELOCITY.				HYGROMETRY 8 A.M.				CLOUD.		RAINFALL.							Heaviest rainfall during year.	STATION.	METEOROLOGICAL PROVINCE OR DISTRICT.	Number of District.
Number of winds from									Mean daily velocity in miles per hour, instrumental errors uncorrected.	Normal (uncorrected).	Percentage departure from normal.	Mean velocity corrected (where possible).	Mean humidity at 8 A.M. of year.	Departure from normal of year.	Mean vapour tension at 8 A.M. of year.	Departure from normal of year.	Mean cloud amount at 8 A.M. of year.	Departure from normal of year.	Number of rainy days during year.	Normal number of rainy days during year.	Departure from normal of year.	Rainfall of year.	Normal rainfall of year.	Departure from normal of year.					
Calm.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.																					
24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	
168	17	14	19	22	19	81	7	18	3.5			4.0	73		119		4.1		116	120.40	- 4.40	95.65	79.72	+15.03	7.00	Shillong	ASSAM HILL TRACTS.	8	
70	15	69	38	13	17	75	60	13	5.3			6.1	80		169		5.7		156	161.70	- 5.70	106.88	438.85	-31.97	24.20	Cherra Poonjee			
50	33	68	13	18	13	99	39	32	7.9	7.0	+13	8.0	50	-5.3	339	- .024	3.0	-0.3	47	54.20	- 7.20	47.74	61.73	-13.99	4.75	Mount Abu	CENTRAL INDIA.		
65	6	38	22	38	3	44	35	114	6.9	5.2	+33	7.1	60	+0.5	422	- .012	4.4	+0.5	78	79.20	- 1.20	87.36	76.21	+11.15	7.19	Pachmarhi			
182	23	28	14	19	11	41	6	4	2.7	3.3	-18		76	+7.8	422	+ .032	5.4	+1.0	95	86.80	+ 8.20	53.34	50.75	+ 2.59	3.50	Wellington (f)	SOUTH INDIA.		
	43	45	43	52	27	8	34	112	13.4				71		328		4.6		120	99.40	+20.60	69.55	64.82	+ 4.73	5.24	Kodaikanal (d)			
165	6	28	51	23	6	28	46	12	4.1			3.9	71		340		4.9		111	90.70	+20.30	75.85	46.60	+29.25	2.60	Ootacamund.			
XIII.—Extra India.																													
69	1	35		1		231		28					86	+5.5	876	+ .012	2.8	-0.5	68			59.62	62.37	-2.55	3.86	Trincomalee	CEYLON.		
	51	35	65	42	27	91	46	8	7.9	7.6	+4		83	+5.9	882	+ .037	5.0	-0.1	112			79.00	89.59	-10.59	3.55	Colombo.			
													69		339		2.9		28			13.22	8.29	+4.93	1.49	Meshed	PERSIA		
136	21	89	16	19	14	46	7	4	2.3			3.0	51		251		2.9	+0.4	28			10.81	9.49	+1.32	1.51	Teheran (g)			
274	6	1	6	4		14	43	14	2.1			2.7	65	+0.7	311	- .008	1.7	-0.4	7			2.56	3.64	-1.08	0.40	Ispahan (k)			
57	101	66	21	23	12	5	4	71	7.5	8.4	-11	8.9	68	+1.0	588	- .020	1.8		7			4.31	12.11	-7.80	1.34	Bushire (h)			
9	86	12	10	16	20	20	58	101					79		747				6			2.32			1.20	Bahrein (b)			
28	57	50	114	18	4	3	22	44	11.6			9.6	70	-0.6	705	- .022	0.9	-0.7	6			2.51	4.46	-1.95	0.77	Jaak (i)			
47	1	3	1	123	1			189	4.1			4.2	71	+1.7	769	+ .027	1.0	-0.6	3			1.04	4.43	-3.39	0.40	Muscat	ARABIA.		
221	59	7	1	5	12	2	14	34	2.0	3.7	-46	2.7	53	-6.0	355	- .054	1.6	+0.4	10			3.07	9.04	-5.97	0.56	Baghdad (a)			
																			9			4.93			0.90	Busrah			
22	4	128	98	33	8	46	3	12	13.9	11.5	+21	11.2	73	-0.2	798	+ .017	3.9	-0.3	14			5.43	2.97	+2.46	1.20	Aden (j)			
	3	45	46	147	4	63	19	38	16.1			15.5	73	0	823	- .002	1.5	-2.5	6			2.83	1.92	+0.91	0.74	Perim			
	16	15	21	86	58	86	13	37					61		209		2.5		40			15.94	11.53	+4.41	1.60	Kabul (b)	AFGHANISTAN.		
243	30	4	1	2	10	1	3	3	1.9			1.6					1.1	-3.1	0			0.17	3.80	-3.63	0.05	Kashgar (m)	CENTRAL ASIA.		
43	60	44	6	1	4	20	83	104					75		852		6.4		86			59.78	48.41	+11.37	5.45	Amini Divi	ARABIAN SEA ISLANDS.		
	45	49	6	5	3	15	67	107	6.7			7.2	79		868		5.0		92			54.30	48.67	+5.63	2.91	Mintcoy (m)			
6	39	54	22	50	112	77	2	2	8.0			7.5	86	+3.1	854	+ .037	6.6	+0.7	82			56.31	55.04	+1.27	3.77	Zanzibar (d)	AFRICA.		
152	8	65		20	5	84		14	6.0			5.8	90		842		5.7		87			62.40			3.00	Do. Dunga (e)			
57	104	97	17	31	33		1	24	4.9								1.1		115			103.76			5.76	Penang (d)	STRAITS SETTLEMENTS.		
4	44	85	29	77	34	14	18	60									5.7		135			99.48			3.75	Singapore			

station, the data for that station are not utilized in calculating the provincial departures from normal.

(i) Wind observations of 340 days.
(A) " " " 363 "(j) Wind observations of 354 days.
(d) " " " 369 "
(e) " " " 355 "(e) Wind observations of 348 days.
(f) " " " 328 "
(g) " " " 352 "
(k) " " " 362 "
(b) " " " 332 "
(m) " " " 297 "

**TABLE II.—Abstract of Observations taken at 10 A.M. and 4 P.M., at
62 Stations in India, Burma, etc., in the year 1903.**

Table

Abstract of Observations recorded at 10 A.M. and 4 P.M.

METEOROLOGICAL PROVINCES.	STATION.	Elevation of barometer above sea-level in feet.	PRESSURE.							TEMPERATURE OF AIR.									
			Mean of 10 hours.	Mean of 16 hours.	Mean daily range.	Mean of daily mean pressure.	Departure from normal.	Mean reduced to sea level or gravity 45° Lat.		Mean maximum.	Mean minimum.	Mean daily range.	Highest maximum.	Lowest minimum.	Absolute range.	Mean 10 hours.	Mean 16 hours.	Mean of daily mean.	Departure from normal.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
BURMA COAST AND BAY ISLANDS.	Port Blair	61	29.875	29.774	.101	29.822	+0.013	29.813	87.1	77.3	9.8	96.1	70.6	25.5	84.0	85.0	81.2	+0.5	
	Rangoon	57	.873	.759	.114	.819	+0.006	.813	85.7	73.0	12.7	103.0	58.7	44.3	82.2	85.3	79.0	+0.1	
	Diamond Island	41	.886	.783	.103	.832	-.003	.808	84.6	76.6	8.0	91.4	68.2	23.2	81.9	82.3	79.5	+0.7	
BENGAL AND ORISSA.	Akyab	20	.889	.781	.108	.836	-.001	.798	85.7	75.1	10.6	98.7	58.1	40.6	80.7	82.6	80.0	+	
	Chittagong	87	.804	.692	.112	.748	-.010	.783	85.2	69.7	15.5	95.8	48.0	47.8	79.9	81.9	76.7	+0.4	
	Calcutta (Alipore)	21	.854	.736	.118	.793	+0.008	.759	87.8	70.7	17.1	107.6	48.9	58.7	81.6	85.0	78.6	+0.7	
GANGOTRI PLAIN AND CHOTA NAGPUR.	Saugor Island	25	.842	.731	.111	.784	+0.002	.753	86.2	74.0	12.2	96.3	51.7	44.6	81.7	83.5	78.9	+0.6	
	False Point	21	.851	.742	.109	.797	-.008	.759	85.3	72.6	12.7	100.3	48.6	51.7	82.4	82.6	77.8	+0.1	
	Hazaribagh	2,007	27.841	27.737	.104	27.789	-.006	.733	85.5	66.1	19.4	106.9	43.4	63.5	78.2	82.1	74.8	+0.9	
UPPER SUB-HIMALAYAS.	Darbhanga	166	29.704	29.575	.129	29.638	+0.005	.758	86.3	67.9	18.4	106.5	45.1	61.4	79.9	84.9	76.4	-0.2	
	Allahabad	309	.544	.423	.121	.479	0	.741	90.7	67.1	23.6	114.3	38.7	75.6	82.6	88.6	78.1	+0.1	
	Dehra Dun	2,233	.617	.531	.086	.565	-.007	.759	82.0	60.6	21.4	104.6	37.4	67.2	73.5	78.2	70.0	-0.4	
INDUS VALLEY AND N.-W. RAJPUTANA.	Roorkee	859	28.936	28.832	.104	28.877	-.008	.745	87.1	62.1	25.0	113.1	33.3	79.8	77.7	84.3	73.7	-0.4	
	Meerut	738	29.094	.990	.104	29.035	-.005	.739	88.5	63.8	24.7	112.0	37.7	74.3	78.4	85.6	75.3	+0.3	
	Lahore	702	.130	29.038	.092	.076	+0.003	.748	89.3	62.6	26.7	117.0	34.0	83.0	79.2	87.1	74.9	+1.1	
EASTERN RAJPUTANA, CENTRAL INDIA AND GUJARAT.	Ludhiana	812	.019	28.926	.093	28.965	+0.003	.748	87.4	64.2	23.2	115.8	37.0	78.8	77.4	85.2	74.8	+0.8	
	Peshawar	1,110	28.758	.657	.101	.700	+0.008	.800	84.9	58.9	26.0	117.5	31.1	86.4	76.5	82.3	70.8	-0.1	
	Jacobabad	186	29.651	29.549	.112	29.598	+0.015	.741	96.4	64.4	32.0	123.6	31.8	91.8	84.7	93.1	79.1	+0.1	
DECCAN.	Kurrachee	30	.866	.771	.095	.816	+0.011	.797	88.3	70.4	17.9	114.3	38.5	75.8	82.7	84.1	78.1	+0.8	
	Jaipur	1,431	28.440	28.337	.103	28.383	+0.006	.764	90.9	65.5	25.4	115.2	35.0	80.2	82.3	88.2	77.0	+0.9	
	Udaipur	1,925	27.960	27.856	.104	27.909	.773	87.9	63.4	24.5	109.6	34.0	75.6	80.7	85.0	75.0			
WEST COAST.	Deesa	466	29.415	29.297	.118	29.351	+0.003	.767	94.7	66.9	27.8	113.4	35.5	77.9	84.8	92.7	80.4	+0.6	
	Jamnagar	61	.842	.732	.110	.787	.794	89.7	67.4	22.3	111.7	39.8	71.9	82.6	86.5	77.7			
	Belgaum	2,539	27.381	27.279	.102	27.329	+0.001	.768	84.1	63.8	20.3	102.3	50.0	52.3	77.5	80.9	72.7	+0.1	
SOUTH INDIA.	Sholapur	1,580	28.308	28.174	.134	28.243	-.005	.762	91.9	68.3	23.6	108.7	50.1	58.6	82.5	89.6	79.1	0	
	Akola	930	.852	.817	.135	.881	+0.001	.756	93.1	66.6	26.5	114.3	43.9	70.4	84.0	91.0	79.4	+0.2	
	Buldana	2,132	27.762	27.648	.114	27.702	-.001	.752	87.3	67.5	19.8	107.3	48.2	59.1	80.0	85.3	77.0	-0.1	
WEST COAST.	Khandwa	1,044	28.835	28.702	.131	28.765	0	.755	92.6	66.5	26.1	114.5	41.6	72.9	82.7	90.7	78.9	+0.7	
	Nagpur	1,025	.847	.718	.129	.779	+0.013	.750	92.4	68.7	23.7	114.4	49.2	65.2	82.8	89.1	79.9	+0.3	
	Nagpur (Sanitary Commr.'s Office, Hyderabad (Deccan))	1,013	.866	.736	.130	.799	.760	92.7	68.8	23.9	114.7	47.3	67.4	83.7	89.8	80.0			
WEST COAST.	Bombay	1,680	.203	.084	.119	.143	-.003	.758	89.8	69.7	20.1	107.4	49.3	58.1	82.1	87.4	79.2	+0.6	
	Karwar	37	29.879	29.776	.103	29.823	0	.800	85.5	74.2	11.3	93.7	58.0	37.7	80.0	82.2	79.0	-0.5	
	Periyakulam	44	.880	.787	.093	.829	-.003	.805	86.0	72.3	13.7	93.5	57.5	36.0	81.2	84.1	78.6	-0.1	
SOUTH INDIA.	Salem	944	28.971	28.841	.130	28.918			91.7	70.5	21.2	102.1	57.7	44.4	83.8	87.4	79.8		
	Chitaldroog	940	.992	.858	.134	.933	-.016	29.803	91.9	71.8	20.1	105.2	58.9	46.3	83.0	88.6	80.1	+0.5	
	Bangalore	2,405	27.525	27.411	.114	27.470	-.003	.779	86.1	67.6	18.5	103.0	52.3	50.7	78.6	83.5	76.2	+0.4	
WEST COAST.	Hassan	3,021	26.948	26.836	.112	26.898	-.006	.789	83.3	64.8	19.5	98.6	51.6	47.0	76.6	81.6	73.9	+0.9	
	Mysore	3,091	.886	.783	.103	.840	-.005	.803	82.6	62.9	19.7	96.4	48.5	47.9	76.4	79.4	72.0	+0.6	
	Madras	2,519	27.437	27.319	.118	27.378	-.007	.795	86.3	66.0	20.3	99.9	53.2	46.7	78.1	82.8	75.2	+0.2	
SOUTH INDIA.		22	29.888	29.773	.115	29.834	-.005	.785	89.7	74.9	14.8	103.1	65.3	37.8	85.0	85.2	81.2	-0.6	

* Mean of 10 months.

II.

at 62 Stations in India, Burma, etc., in the year 1903.

TEMPERATURE, WET-BULB.				VAPOUR TENSION.					HUMIDITY.					CLOUD.				RAINFALL.		STATION.	METEOROLOGICAL PROVINCE.
Mean minimum.	Mean 10 hours.	Mean 16 hours.	Mean of three previous columns.	From minimum.	Mean 10 hours.	Mean 16 hours.	Mean of three previous columns.	Departure from normal.	From minimum.	Mean 10 hours.	Mean 16 hours.	Mean of three previous columns.	Departure from normal.	Mean 10 hours.	Mean 16 hours.	Mean of two previous columns.	Departure from normal.	Total rainfall for the year.	Heaviest rainfall during the year.		
20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
74.9	79.2	79.0	77.7	.833	.938	.915	.895	+0.013	89	80	76	82	0	5.4	5.6	5.5	+0.1	116.42	4.64	Port Blair.	BURMA COAST AND BAY ISLANDS.
71.0	75.2	76.0	74.1	.745	.790	.781	.772	-.006	90	72	66	76	-2	5.0	5.3	5.2	-0.2	88.10	3.31	Rangoon.	
72.5	76.3	76.2	75.0	.743	.841	.831	.805	0	81	77	75	77	-2	4.3	4.7	4.5	-0.7	121.39	6.10	Diamond Island.	
	76.1	76.5			.857	.844				80	75			4.8	4.1	4.5	-0.1	232.58	11.45	Akyab.	BENGAL AND ORISSA.
68.7	74.1	74.7	72.5	.716	.786	.780	.761	+0.010	95	75	70	80	0	4.5	4.0	4.3	-0.4	91.64	6.43	Chittagong	
68.5	73.9	74.0	72.1	.696	.760	.713	.723	-.013	89	68	59	72	-4	4.5	4.6	4.6	+0.3	54.14	6.35	Calcutta (Alipore).	
71.3	76.0	76.3	74.5	.757	.845	.834	.812	-.008	87	76	71	78	-2	5.3	5.1	5.2	+0.3	60.62	5.38	Saugor Island.	GANGOTRI PLAIN AND CHOTA NAGPUR.
71.0	76.0	76.0	74.3	.764	.832	.826	.807	+0.012	93	73	72	79	-1	5.3	5.2	5.3	+0.5	57.87	4.33	False Point.	
60.1	64.7	65.5	63.4	.481	.469	.445	.465	-.018	70	48	41	53	-4	5.0	5.7	5.4	+0.6	45.84	2.84	Hazaribagh.	
64.8	71.7	72.9	69.8	.617	.699	.679	.665	-.006	84	66	55	69	-2	2.9	2.0	2.5	-0.2	42.21	2.98	Darbhanga.	UPPER SUB-HIMALAYAS.
61.3	69.1	70.5	66.9	.516	.566	.535	.539	-.032	73	50	41	55	-5	3.5	3.5	3.5	+0.2	47.13	9.00	Allahabad.	
55.2	62.0	63.3	60.2	.405	.445	.429	.426	-.040	71	52	45	56	-6	4.2	4.4	4.3	+0.3	60.88	6.09	Dehra Dun	
57.5	65.2	66.5	63.1	.465	.493	.448	.469	-.027	78	51	38	56	-3	2.5	2.4	2.5	-0.6	37.83	5.22	Roorkee.	INDUS VALLEY AND N.-W. RAJPUTANA.
58.9	64.5	67.9	63.7	.491	.486	.458	.478	-.034	75	48	36	53	-5	2.8	3.2	3.0	0	25.55	7.11	Meerut.	
57.7	66.2	68.2	64.2	.471	.516	.497	.495	+0.010	75	50	38	54	+3	2.4	2.7	2.6	-0.1	14.71	2.68	Lahore.	
59.2	63.6	65.8	62.9	.491	.450	.420	.454	-.052	76	46	34	52	-6	2.2	2.4	2.3	-1.2	24.28	2.65	Ludhiana.	EASTERN RAJPUTANA, CENTRAL INDIA AND GUJARAT.
52.9	62.5	64.1	59.8	.372	.441	.411	.408	-.017	67	47	37	50	-3	2.6	3.4	3.0	-0.2	12.09	1.52	Peshawar.	
59.4	71.4	75.3	68.7	.527	.669	.719	.638	?	72	49	41	54	?	1.4	1.7	1.6	-0.4	3.22	1.41	Jacobabad.	
65.6	72.0	74.4	70.6	.624	.687	.752	.687	+0.018	75	57	61	64	-2	1.8	1.7	1.8	-1.4	4.58	1.94	Kurrachee.	WEST COAST.
57.3	65.1	66.5	63.0	.421	.445	.414	.426	-.039	59	38	30	42	-7	2.8	3.9	3.4	-0.1	23.39	5.16	Jaipur.	
58.0	65.3	66.7	63.3	.457	.463	.454	.458		72	42	37	50		2.3	3.1	2.7		26.62	2.11	Udaipur.	
59.3	67.8	68.5	65.2	.460	.484	.400	.448	-.033	60	39	27	42	-4	2.5	2.5	2.5	-0.9	19.52	3.55	Deesa.	SOUTH INDIA.
62.6	69.8	70.5	67.6	.554	.592	.562	.569		74	50	43	56		2.4	2.3	2.4		26.64	5.32	Jamnagar.	
61.3	66.0	67.7	65.0	.525	.507	.522	.519	-.002	87	56	53	65	+2	4.5	5.0	4.8	+0.1	42.79	4.00	Belgaum.	
61.5	67.5	69.1	66.0	.486	.500	.466	.483	-.010	68	46	36	50	-1	4.3	5.4	4.9	+0.1	43.32	3.33	Sholapur.	WEST COAST.
60.1	68.7	70.5	66.4	.471	.520	.487	.492	+0.01	68	45	36	50	-1	3.6	4.5	4.1	+0.2	30.70	2.73	Akola.	
59.1	65.0	66.0	63.4	.421	.448	.413	.427	-.038	60	45	37	47	-5	3.5	4.1	3.8	-0.2	36.40	3.29	Buldana.	
59.2	67.4	69.5	65.4	.455	.503	.472	.477	-.021	65	45	36	49	-4	3.4	3.9	3.7	+0.2	29.80	1.82	Khandwa.	SOUTH INDIA.
61.7	68.6	70.3	66.8	.497	.544	.520	.520	-.008	67	49	40	52	-2	3.6	4.9	4.3	-0.2	56.66	5.49	Nagpur.	
61.9	69.5	71.8	67.7	.504	.563	.570	.546		68	50	43	54		3.5	4.5	4.0		65.24	4.60	Nagpur (Sany Comar's Office).	
65.4	70.1	71.7	69.1	.587	.596	.591	.592	+0.014	80	56	49	62	+1	4.2	5.1	4.7	+0.8	49.52	4.61	Hyderabad (Deccan).	WEST COAST.
70.3	73.7	75.1	73.0	.764	.787	.752	.752	-.023	81	73	71	75	-2	4.0	3.8	3.9	-0.4	84.49	5.03	Bombay.	
70.2	74.9	76.3	73.8	.723	.787	.808	.772	+0.012	90	73	69	77	0	3.1	3.6	3.4	-0.3	136.10	9.24	Karwar.	
67.5	73.1	73.4	71.3	.641	.676	.637	.657		85	59	51	65		4.1	6.3	5.2		25.08	2.45	Periyakulam.	SOUTH INDIA.
69.4	75.3	77.5	74.1	.694	.784	.809	.762	+0.074	89	69	60	73	+5	5.1	6.3	5.7	+1.1	53.18	2.17	Salem.	
63.4	68.4	68.8	66.9	.542	.572	.527	.547	+0.040	80	60	49	63	+4	4.9	4.9	4.9	-0.1	38.43	3.31	Chitaldroog.	
62.3	67.3	67.3	65.6	.5.9	.566	.508	.538	+0.004	87	63	51	67	0	4.7	5.5	5.1	+0.6	51.25	4.09	Bangalore.	SOUTH INDIA.
61.5	66.6	66.5	64.9	.539	.545	.507	.531	+0.004	90	61	54	68	-1	5.7	6.5	6.1	+0.2	50.96	5.66	Hassan.	
64.2	68.8	68.9	67.3	.587	.594	.542	.574	+0.026	91	62	52	68	+3	6.8	6.8	6.8	+1.3	51.02	3.34	Mysore.	
	76.9	77.3	76.2		.818	.836	.840	+0.056		69	69	79	+6	4.9	4.7	4.8	-0.2	78.52	6.18	Madras.	

Table

Abstract of Observations recorded at 10 A.M. and 4 P.M.

METEOROLOGICAL PROVINCE.	STATION.	Elevation of bar cistern above sea-level in feet.	PRESSURE.							TEMPERATURE OF AIR.								
			Mean of 10 hours.	Mean of 16 hours.	Mean daily range.	Mean of daily mean pressure.	Departure from normal.	Mean reduced to S. L. and for gravity 45° Lat.	Mean maximum.	Mean minimum.	Mean daily range.	Highest maximum.	Lowest minimum.	Absolute range.	Mean 10 hours.	Mean 16 hours.	Mean of daily mean.	Departure from normal.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
BURMA COAST AND BAY ISLANDS.	Port Blair . . .	61	29°875	29°774	°101	29°822	+°013	29°813	87°1	77°3	9°8	96°1	70°6	25°5	84°0	85°0	81°2	+0°5
	Rangoon . . .	57	°873	°759	°114	°819	+°006	°813	85°7	73°0	12°7	103°0	58°7	44°3	82°2	85°3	79°0	+0°1
	Diamond Island . .	41	°886	°783	°103	°832	-°003	°808	84°6	76°6	8°0	91°4	68°2	23°2	81°9	82°3	79°5	+0°7
	Akyab . . .	20	°889	°781	°108	°836	-°001	°798	85°7	75°1*	10°6	98°7	58°1	40°6	80°7	82°6	80°0*	?
BENGAL AND ORISSA.	Chittagong . . .	87	°804	°692	°112	°748	-°010	°783	85°2	69°7	15°5	95°8	48°0	47°8	79°9	81°9	76°7	+0°4
	Calcutta (Alipore) .	21	°854	°736	°118	°793	+°008	°759	87°8	70°7	17°1	107°6	48°9	58°7	81°6	85°0	78°6	+0°7
	Saugor Island . . .	25	°842	°731	°111	°784	+°002	°753	86°2	74°0	12°2	96°3	51°7	44°6	81°7	83°5	78°9	+0°6
	False Point . . .	21	°851	°742	°109	°797	-°008	°759	85°3	72°6	12°7	100°3	48°6	51°7	82°4	82°6	77°8	+0°1
GANGETIC PLAIN AND CHOTA NAGPUR.	Hazaribagh . . .	2,007	27°841	27°737	°104	27°789	-°006	°733	85°5	66°1	19°4	106°9	43°4	63°5	78°2	82°1	74°8	+0°9
	Darbhanga . . .	166	29°704	29°575	°129	29°638	+°005	°758	86°3	67°9	18°4	106°5	45°1	61°4	79°9	84°9	76°4	-0°2
	Allahabad . . .	309	°544	°423	°121	°479	0	°741	90°7	67°1	23°6	114°3	38°7	75°6	82°6	88°6	78°1	+0°1
UPPER SUB-HIMALAYAS.	Dehra Dun . . .	2,233	°617	°531	°086	°565	-°007	°759	82°0	60°6	21°4	104°6	37°4	67°2	73°5	78°2	70°0	-0°4
	Roorkee . . .	839	28°936	28°832	°104	28°877	-°008	°745	87°1	62°1	25°0	113°1	33°3	79°8	77°7	84°3	73°7	-0°4
	Meerut . . .	738	29°094	°990	°104	29°035	-°005	°739	88°5	63°8	24°7	112°0	37°7	74°3	78°4	85°6	75°3	+0°3
	Lahore . . .	702	°130	29°038	°092	°076	+°003	°748	89°3	68°6	26°7	117°0	34°0	83°0	79°2	87°1	74°9	+1°1
INDUS VALLEY AND N.W. RAJPUTANA.	Ludhiana . . .	812	°019	28°926	°093	28°965	+°003	°748	87°4	64°2	23°2	115°8	37°0	78°8	77°4	85°2	74°8	+0°8
	Peshawar . . .	1,110	28°758	°657	°101	°700	+°008	°800	84°9	58°9	26°0	117°5	31°1	86°4	76°5	82°3	70°8	-0°1
	Jacobabad . . .	186	29°651	29°549	°112	29°598	+°015	°741	96°4	64°4	32°0	123°6	31°8	91°8	84°7	93°1	79°1	+0°1
	Kurrachee . . .	30	°866	°771	°095	°816	+°011	°797	88°3	70°4	17°9	114°3	38°5	75°8	82°7	84°1	78°1	+0°8
EASTERN RAJPUTANA, CENTRAL INDIA AND GUJARAT.	Jaipur . . .	1,431	28°440	28°337	°103	28°383	+°006	°764	90°9	65°5	25°4	115°2	35°0	80°2	82°3	88°2	77°0	+0°9
	Udaipur . . .	1,925	27°960	27°856	°104	27°909	°773	87°9	63°4	24°5	109°6	34°0	75°6	80°7	85°0	75°0		
	Deesa . . .	466	29°415	29°297	°118	29°351	+°003	°767	94°7	66°9	27°8	113°4	35°5	77°9	84°8	92°7	80°4	+0°6
	Jamnagar . . .	61	°842	°732	°110	°787	°794	89°7	67°4	22°3	111°7	39°8	71°9	82°6	86°5	77°7		
DECCAN . . .	Belgaum . . .	2,539	27°381	27°279	°102	27°329	+°001	°768	84°1	63°8	20°3	102°3	50°0	52°3	77°5	80°9	72°7	+0°1
	Sholapur . . .	1,590	28°308	28°174	°134	28°243	-°005	°762	91°9	68°3	23°6	108°7	50°1	58°6	82°5	89°6	79°1	0
	Akola . . .	930	°952	°817	°135	°881	+°001	°756	93°1	66°6	26°5	114°3	43°9	70°4	84°0	91°0	79°4	+0°2
	Buldana . . .	2,132	27°762	27°648	°114	27°702	-°001	°752	87°3	67°5	19°8	107°3	48°2	59°1	80°0	85°3	77°0	-0°1
	Khandwa . . .	1,044	28°835	28°702	°131	28°765	0	°755	92°6	66°5	26°1	114°5	41°6	72°9	82°7	90°7	78°9	+0°7
	Nagpur . . .	1,025	°847	°718	°129	°779	+°013	°750	92°4	68°7	23°7	114°4	49°2	65°2	82°8	89°1	79°9	+0°3
	Nagpur (Sanitary Commr.'s Office.)	1,013	°866	°736	°130	°799	°760	92°7	68°8	23°9	114°7	47°3	67°4	83°7	89°8	80°0		
	Hyderabad (Deccan)	1,690	°203	°084	°119	°143	-°003	°758	89°8	69°7	20°1	107°4	49°3	58°1	82°1	87°4	79°2	+0°6
WEST COAST . . .	Bombay . . .	37	29°879	29°776	°103	29°823	0	°800	85°5	74°2	11°3	93°7	56°0	37°7	80°0	82°2	79°0	-0°5
	Karwar . . .	44	°880	°767	°093	°829	-°003	°805	86°0	72°3	13°7	93°5	57°5	36°0	81°2	84°1	78°6	-0°1
SOUTH INDIA . . .	Periyakulam . . .	944	28°971	28°841	°130	28°918			91°7	70°5	21°2	102°1	57°7	44°4	83°8	87°4	79°8	
	Salem . . .	940	°992	°858	°134	°933	-°016	29°803	91°9	71°8	20°1	105°2	58°9	46°3	83°0	88°6	80°1	+0°5
	Chitaldroog . . .	2,405	27°525	27°411	°114	27°470	-°003	°779	86°1	67°6	18°5	103°0	52°3	50°7	78°6	83°5	76°2	+0°4
	Bangalore . . .	3,021	26°948	26°836	°112	26°898	-°006	°789	84°3	64°8	19°5	98°6	51°6	47°0	76°6	81°6	73°9	+0°9
	Hassan . . .	3,091	°886	°783	°103	°840	-°005	°803	82°6	62°9	19°7	96°4	48°5	47°9	76°4	79°4	72°0	+0°6
	Mysore . . .	2,518	27°437	27°319	°118	27°378	-°007	°795	86°2	66°0	20°3	99°9	53°2	46°7	78°1	82°8	75°2	+0°2
	Madras . . .	22	29°888	29°773	°115	29°834	-°005	°785	89°7	74°9	14°8	103°1	65°3	37°8	85°0	85°2	81°2	-0°6

* Mean of 10 months.

II.

at 62 Stations in India, Burma, etc., in the year 1903.

TEMPERATURE, WET-BULB.				VAPOUR TENSION.					HUMIDITY.					CLOUD.				RAINFALL.		STATION.	METEOROLOGICAL PROVINCE.
Mean minimum.	Mean 10 hours.	Mean 16 hours.	Mean of three previous columns.	From minimum.	Mean 10 hours.	Mean 16 hours.	Mean of three previous columns.	Departure from normal.	From minimum.	Mean 10 hours.	Mean 16 hours.	Mean of three previous columns.	Departure from normal.	Mean 10 hours.	Mean 16 hours.	Mean of two previous columns.	Departure from normal.	Total rainfall for the year.	Highest rainfall during the year.		
20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
74.9	79.2	79.0	77.7	.833	.938	.915	.895	+0.13	89	80	76	82	0	5.4	5.6	5.5	+0.1	116.42	4.64	Port Blair.	BURMA COAST AND BAY ISLANDS.
71.0	75.2	76.0	74.1	.745	.790	.781	.772	-.006	90	72	66	76	-2	5.0	5.8	5.2	-0.2	88.10	3.31	Rangoon.	
72.5	76.3	76.2	75.0	.743	.841	.831	.805	0	81	77	75	77	-2	4.3	4.7	4.5	-0.7	121.39	6.10	Diamond Island.	
	76.1	76.5			.857	.844				80	75			4.8	4.1	4.5	-0.1	232.58	11.45	Akyab.	BENGAL AND ORISSA.
68.7	74.1	74.7	72.5	.716	.786	.780	.761	+0.10	95	75	70	80	0	4.5	4.0	4.3	-0.4	91.64	6.43	Chittagong.	
68.5	73.9	74.0	72.1	.696	.760	.713	.723	-.013	89	68	59	72	-4	4.5	4.6	4.6	+0.3	54.14	6.35	Calcutta (Alipore).	
71.3	76.0	76.3	74.5	.757	.845	.834	.812	-.008	87	76	71	78	-2	5.3	5.1	5.2	+0.3	60.62	5.38	Saugor Island.	
71.0	76.0	76.0	74.3	.764	.832	.826	.807	+0.12	93	73	72	79	-1	5.3	5.2	5.3	+0.5	57.97	4.33	False Point.	
60.1	64.7	65.5	63.4	.481	.469	.445	.465	-.018	70	48	41	53	-4	5.0	5.7	5.4	+0.6	45.84	2.84	Hazaribagh.	GANGOTRI PLAIN AND CHOTA NAAGPUR.
64.8	71.7	72.9	69.8	.617	.699	.679	.665	-.006	84	66	55	69	-2	2.9	2.0	2.5	-0.2	42.21	2.98	Darbhanga.	
61.3	69.1	70.5	66.9	.516	.566	.535	.539	-.032	73	50	41	55	-5	3.5	3.5	3.5	+0.2	47.13	9.00	Allahabad.	UPPER SUB-HIMALAYAS.
55.2	62.0	63.3	60.2	.405	.445	.429	.426	-.040	71	52	45	56	-6	4.2	4.4	4.3	+0.3	60.88	6.09	Dehra Dun.	
57.5	65.2	66.5	63.1	.465	.493	.448	.469	-.027	78	51	38	56	-3	2.5	2.4	2.5	-0.6	37.83	5.22	Roorkee.	
58.9	64.5	67.9	63.7	.491	.486	.458	.478	-.034	75	48	36	53	-5	2.8	3.2	3.0	0	25.55	7.11	Meerut.	
57.7	66.2	68.2	64.2	.471	.516	.497	.495	+0.10	75	50	38	54	+3	2.4	2.7	2.6	-0.1	14.71	2.68	Lahore.	
59.2	63.6	65.8	62.9	.491	.450	.420	.454	-.052	76	46	34	52	-6	2.2	2.4	2.3	-1.2	24.28	2.65	Ludhiana.	INDUS VALLEY AND N.-W. RAJPUTANA.
52.9	62.5	64.1	59.8	.372	.441	.411	.408	-.017	67	47	37	50	-3	2.6	3.4	3.0	-0.2	12.09	1.52	Peshawar.	
59.4	71.4	75.3	68.7	.527	.669	.719	.638	P	72	49	41	54	P	1.4	1.7	1.6	-0.4	3.22	1.41	Jacobabad.	
65.6	72.0	74.4	70.6	.624	.687	.752	.687	+0.18	75	57	61	64	-2	1.8	1.7	1.8	-1.4	4.58	1.94	Kurrachee.	
57.3	65.1	66.5	63.0	.421	.445	.414	.426	-.039	59	38	30	42	-7	2.8	3.9	3.4	-0.1	23.39	5.16	Jaipur.	EASTERN RAJPUTANA, CENTRAL INDIA AND GUJARAT.
58.0	65.3	66.7	63.3	.457	.463	.454	.458		72	42	37	50		2.3	3.1	2.7		26.62	2.11	Udaipur.	
59.3	67.8	68.5	65.2	.460	.484	.400	.448	-.033	60	39	27	42	-4	2.5	2.5	2.5	-0.9	19.52	3.55	Deesa.	
62.6	69.8	70.5	67.6	.554	.592	.562	.569		74	50	43	56		2.4	2.3	2.4		26.64	5.32	Jaunagar.	
61.3	66.0	67.7	65.0	.525	.507	.522	.519	-.002	87	56	53	65	+2	4.5	5.0	4.8	+0.1	42.79	4.00	Belgaum.	DECCAN.
61.5	67.5	69.1	66.0	.486	.500	.466	.483	-.010	68	46	36	50	-1	4.3	5.4	4.9	+0.1	43.32	3.33	Sholapur.	
60.1	68.7	70.5	66.4	.471	.520	.487	.492	+0.01	68	45	36	50	-1	3.6	4.5	4.1	+0.2	30.70	2.73	Akola.	
59.1	65.0	66.0	63.4	.421	.448	.413	.427	-.038	60	45	37	47	-5	3.5	4.1	3.8	-0.2	36.40	3.29	Buldana.	
59.2	67.4	69.5	65.4	.455	.503	.472	.477	-.021	65	45	36	49	-4	3.4	3.9	3.7	+0.2	29.80	1.82	Khandwa.	
61.7	68.6	70.3	66.8	.497	.544	.520	.520	-.008	67	49	40	52	-2	3.6	4.9	4.3	-0.2	56.66	5.49	Nagpur.	WEST COAST.
61.9	69.5	71.8	67.7	.504	.563	.570	.546		68	50	43	54		3.5	4.5	4.0		65.24	4.60	Nagpur (Sany. Commr.'s Office).	
65.4	70.1	71.7	69.1	.587	.596	.591	.592	+0.14	80	56	49	62	+1	4.2	5.1	4.7	+0.8	49.52	4.61	Hyderabad (Deccan).	
70.3	73.7	75.1	73.0	.705	.764	.787	.752	-.023	81	73	71	75	-2	4.0	3.8	3.9	-0.4	84.49	5.03	Bombay.	
70.2	74.9	76.3	73.8	.723	.787	.808	.772	+0.12	90	73	69	77	0	3.1	3.6	3.4	-0.3	136.10	9.24	Karwar.	
67.5	73.1	73.4	71.3	.641	.676	.637	.657		85	59	51	65		4.1	6.3	5.2		25.08	2.45	Periyakulam.	SOUTH INDIA.
69.4	75.3	77.5	74.1	.694	.784	.809	.762	+0.074	89	69	60	73	+5	5.1	6.3	5.7	+1.1	53.18	2.17	Salem.	
63.4	68.4	68.8	66.9	.542	.572	.527	.547	+0.040	80	60	49	63	+4	4.9	4.9	4.9	-0.1	38.43	3.31	Chitaldroog.	
62.3	67.3	67.3	65.6	.519	.566	.508	.538	+0.004	87	63	51	67	0	4.7	5.5	5.1	+0.6	51.25	4.09	Bangalore.	
61.5	66.6	66.5	64.9	.539	.545	.507	.531	+0.004	90	61	54	68	-1	5.7	6.5	6.1	+0.2	50.96	5.66	Hassan.	
64.2	68.8	68.9	67.3	.587	.594	.542	.574	+0.026	91	62	52	68	+3	6.8	6.8	6.8	+1.3	51.02	3.34	Mysore.	
	76.9	77.3	76.2		.818	.836	.840	+0.056		69	69	79	+6	4.9	4.7	4.8	-0.2	78.52	6.18	Madras.	

Table

Abstract of Observations recorded at 10 A.M. and 4 P.M.

METEOROLOGICAL PROVINCE.	STATION.	Elevation of barometer above sea level in feet.	PRESSURE.						TEMPERATURE OF AIR.									
			Mean of 10 hours.	Mean of 16 hours.	Mean daily range.	Mean of daily mean pressure.	Departure from normal.	Mean reduced to S. L. and for gravity 45° Lat.	Mean maximum.	Mean minimum.	Mean daily range.	Highest maximum.	Lowest minimum.	Absolute range.	Mean 10 hours.	Mean 16 hours.	Mean of daily mean.	Departure from normal.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
SOUTH INDIA—concl.	Bellary . . .	1,475	28°33'	28°30'	°133	28°370	-.009	29°771	93°0	71°3	21°7	108°5	53°1	55°4	83°0	89°5	80°9	+0°3
	Waltair . . .	226	29°56'	29°54'	°111	29°600		767	86°6	75°2	11°4	99°7	62°2	37°5	83°3	83°3	80°2	
HILL STATION, BALUCHISTAN.	Quetta . . .	5,502	24°66'	24°58'	°079	24°616	+°033		71°5	42°8	28°7	95°7	9°3	86°4	63°7	68°0	56°3	-1°8
	Leh . . .	11,503	19°713	19°620	°093	19°672	+°008		51°9	27°5	24°4	78°4	-3°1	81°5	42°5	49°2	39°3	-1°9
HILL STATIONS, NORTHERN INDIA.	Srinagar . . .	5,204	24°007	24°824	°083	24°858	+°009		65°1	44°0	21°1	92°8	17°5	75°3	54°1	62°7	54°0	-0°4
	Simla (Ridge). . .	7,224	23°127	23°073	°054	23°093	+°014		60°8	49°6	11°2	83°4	23°3	60°1	56°4	57°6	54°3	-1°2
	Chakrata . . .	7,022	23°0	23°9	°051	23°057	+°004		64°3	49°8	14°5	83°6	24°9	58°7	58°1	59°1	55°9	+0°1
	Ranikhet . . .	6,069	24°109	24°038	°071	24°061	+°009		68°1	53°4	14°7	89°1	30°0	59°1	62°7	63°9	59°7	-0°1
	Muktesar . . .	7,600	22°863	22°801	°062	22°832			64°4	48°2	16°2	85°8	24°7	61°1	58°6	58°8	54°9	
	Katmandu . . .	4,388	25°679	25°588	°091	25°632			76°8	53°0	23°8	95°4	27°6	67°8	68°9	72°5	63°8	-1°0
HILL STATIONS, CENTRAL INDIA.	Darjeeling . . .	7,376	23°014	22°963	°051	22°987	+°010		59°4	47°5	11°9	71°5	30°1	41°4	55°5	57°1	52°9	+1°0
	Mount Abu . . .	3,945	26°048	25°975	°073	26°007	-°005		75°5	62°1	13°4	94°2	36°0	58°2	71°1	73°2	68°2	0
	Pachmarhi . . .	3,528	25°0	26°360	°090	26°0	+°005		80°8	60°9	19°9	101°2	36°9	64°3	74°2	78°0	70°3	+0°7
	Chikalda . . .	3,642	23°25	23°0	°095	23°0	-°010		79°9	63°8	16°1	88°4	46°9	51°5	73°4	77°3	71°4	+0°1
HILL STATIONS, SOUTH INDIA.	Kodaikanal . . .	7,688	22°846	22°776	°070	22°807			64°7	51°4	13°3	74°5	42°7	31°8	61°4	59°1	56°5	
	Ootacamund . . .	7,322	23°075	23°004	°071	23°040			65°6	49°7	15°9	74°7	34°2	40°5	62°4	60°8	56°4	
EXTRA INDIA	Aden . . .	94	29°849	29°722	°127	29°782	+°008	29°807	87°6	78°1	9°5	98°1	67°7	30°4	84°0	86°1	82°7	+0°5
	Perim . . .	201	27°10	27°595	°115	27°649	+°013	781	89°2	79°4	9°8	101°3	67°6	33°7	85°9	86°4	83°6	-0°3
	Minicoy* . . .	7	27°551	27°882	°069	27°914		846	86°4			91°7			84°2	83°8		
	Zanzibar . . .	73	27°593	27°882	°111	27°938	-°006	837	84°4	76°8	7°6	91°6	69°6	22°0	80°4	83°6	80°4	+0°8
	Port Victoria (Seychelles). . .	15	27°576	27°889	°087	27°933	-°012	872	83°0	73°9	9°1	88°0	67°9	20°1	81°3	82°1	78°2	-1°1
	Mauritius (Pamplemousses). . .	181				27°875	-°012	30°004				89°0	55°1	33°9			73°3	-0°2

* Observations for 10 months.

N.B. - Elevations in italics indicate barometric determinations.

II—concl.

at 62 Stations in India, Burma, etc., in the year 1903—concl.

TEMPERATURE, WET-BULB.				VAPOUR TENSION.					HUMIDITY.					CLOUD.				RAINFALL.		STATION.	METEOROLOGICAL PROVINCE.
Mean minimum.	Mean 10 hours.	Mean 16 hours.	Mean of three previous columns.	From minimum.	Mean 10 hours.	Mean 16 hours.	Mean of three previous columns.	Departure from normal.	From minimum.	Mean 10 hours.	Mean 16 hours.	Mean of three previous columns.	Departure from normal.	Mean 10 hours.	Mean 16 hours.	Mean of two previous columns.	Departure from normal.	Total rainfall for the year.	Heaviest rainfall during the year.		
20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
64·6	72·0	74·2	70·3	·539	·659	·668	·622	+·074	70	59	49	59	+6	4·9	5·9	5·4	+0·4	29·06	6·38	Bellary.	SOUTH INDIA— concl.
71·4	74·4	75·1	73·7	·732	·745	·776	·751		83	64	67	71		5·4	5·3	5·4		30·67	2·56	Waltair.	
39·2	49·6	50·7	46·5	·228	·236	·213	·225	-·024	78	41	34	51	+1	1·5	2·4	2·0	-0·3	11·73	1·50	Quetta . . .	HILL STATIONS, BALUCHISTAN, HILL STATIONS, NORTHERN INDIA.
23·9	31·1	34·4	29·8	·122	·116	·126	·121	-·014	62	30	24	39	?	4·4	5·4	4·9	-0·5	4·08	0·66	Leh . . .	
42·2	51·2	58·2	50·5	·281	·388	·488	·385	+·024	86	82	77	82	+5	4·4	4·6	4·5	0	35·63	1·80	Srinagar.	
43·5	47·5	48·9	46·6	·244	·262	·281	·262	-·026	63	53	55	57	-3	4·9	5·8	5·4	+0·2	53·81	4·89	Simla (Ridge).	
44·1	49·5	50·3	48·0	·256	·290	·297	·281	-·021	66	56	56	59	-5	4·0	4·5	4·3	-0·3	76·91	9·08	Chakrata.	
42·8	53·1	53·6	51·7	·307	·328	·330	·322	-·023	70	55	53	59	-5	3·8	4·5	4·2	-0·3	37·37	3·42	Ranikhet.	
51·4	59·1	61·2	57·2	·402	·443	·436	·435	-·013	89	64	53	69	-3	3·7	4·3	4·6	-0·7	55·49	3·76	Muktesar.	
45·5	51·7	53·4	50·2	·305	·366	·388	·353	0	86	78	79	81	-4	5·2	6·1	5·7	-1·0	100·66	6·61	Darjeeling.	
53·0	57·9	58·9	56·6	·222	·353	·358	·345	-·021	54	45	43	47	-5	3·1	3·4	3·3	-0·4	47·74	4·75	Mount Abu . . .	HILL STATIONS, CENTRAL INDIA.
55·1	61·1	62·8	59·7	·399	·409	·414	·407	-·006	71	49	45	55	-2	4·1	4·9	4·5	+0·3	87·36	7·19	Pachmarhi.	
56·5	62·5	64·6	61·2	·393	·460	·476	·443	+·011	65	57	53	58	-1	3·3	4·2	3·8	-0·6	78·20	10·00	Chikalda.	HILL STATIONS, SOUTH INDIA.
46·8	54·2	55·2	51·9	·281	·353	·400	·345		73	66	80	76		5·3	7·2	6·3		69·55	5·24	Kodaikanal . . .	
47·3	54·4	55·3	52·3	·309	·345	·385	·346		84	63	73	74		5·3	7·0	6·2		75·85	2·60	Ootacamund.	
72·0†	76·0	74·5	74·5†	·706†	·802	·708	·747†	?	72†	68	56	65†	?	3·4	1·3	2·4	-0·1	5·43	1·20	Aden . . .	EXTRA INDIA.
72·1	77·1	76·9	75·7	·733	·823	·803	·787	+·028	73	67	63	68	+3	0·7	0·7	0·7	-1·3	2·83	0·74	Perim.	
	78·0	77·6			·877	·863				75	75			5·1	5·6	5·4		54·30	2·91	Minicoy.	
72·2†	76·4	76·7	75·0†	·736†	·862	·829	·807†	?	80†	83	72	78†	?	6·4	5·4	5·9	+1·1	56·31	3·77	Zanzibar.	
72·7	75·8	75·8	74·8	·795	·822	·813	·810	+·025	94	77	74	82	+4	6·4	6·6	6·5	+0·2	132·79	6·05	Port Victoria (Seychelles).	
			68·4				·623	0				75	0				+0·2	43·08	4·24	Mauritius (Pamplemousses).	

† Mean of 11 months.

Table

Abstract of Observations recorded at 10 A.M. and 4 P.M.

METEOROLOGICAL PROVINCE.	STATION.	Elevation of bar-cistern above sea level in feet.	PRESSURE.						TEMPERATURE OF AIR.									
			Mean of 10 hours.	Mean of 16 hours.	Mean daily range.	Mean of daily mean pressure.	Departure from normal.	Mean reduced to S. I., and for gravity 45° Lat.	Mean maximum.	Mean minimum.	Mean daily range.	Highest maximum.	Lowest minimum.	Absolute range.	Mean 10 hours.	Mean 16 hours.	Mean of daily mean.	Departure from normal.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
SOUTH INDIA—CONSOL.	Bellary . . .	1,475	28°434	28°301	°133	28°370	—009	29°771	93°0	71°3	21°7	108°5	53°1	55°4	83°0	89°5	80°9	+0°3
	Waltair . . .	226	29°656	29°545	°111	29°600		°767	86°6	75°2	11°4	99°7	62°2	37°5	83°3	83°3	80°2	
HILL STATION, BALUCHISTAN.	Quetta . . .	5,502	24°663	24°581	°079	24°616	+°033		71°5	42°8	28°7	95°7	9°3	86°4	63°7	68°0	56°3	—1°8
HILL STATIONS, NORTHERN INDIA.	Leh . . .	11,503	19°713	19°620	°093	19°672	+°008		51°9	27°5	24°4	78°4	—3°1	81°5	42°5	49°2	39°3	—1°9
	Srinagar . . .	5,204	24°907	24°824	°083	24°858	+°009		65°1	44°0	21°1	92°8	17°5	75°3	54°1	62°7	54°0	—0°4
	Simla (Ridge). . .	7,224	23°127	23°073	°054	23°093	+°014		60°8	49°6	11°2	83°4	23°3	60°1	56°4	57°6	54°3	—1°2
	Chakrata . . .	7,022	2°90	2°39	°051	2°57	+°004		64°3	49°8	14°5	83°6	24°9	58°7	58°1	59°1	55°9	+0°1
	Ranikhet . . .	6,069	24°109	24°038	°071	24°061	+°009		68°1	53°4	14°7	89°1	30°0	59°1	62°7	63°9	59°7	—0°1
	Muktesar . . .	7,600	22°863	22°801	°062	22°832			64°4	48°2	16°2	85°8	24°7	61°1	58°6	58°8	54°9	
	Katmandu . . .	4,388	25°679	25°588	°091	25°632			76°8	53°0	23°8	95°4	27°6	67°8	66°9	72°5	63°8	—1°0
	Darjeeling . . .	7,376	23°014	22°963	°051	22°987	+°010		59°4	47°5	11°9	71°5	30°1	41°4	55°5	57°1	52°9	+1°0
HILL STATIONS, CENTRAL INDIA.	Mount Abu . . .	3,915	26°048	25°975	°073	26°007	—°005		75°5	62°1	13°4	94°2	36°0	58°2	71°1	73°2	68°2	0
	Pachmarhi . . .	3,528	4°50	26°360	°090	4°02	+°005		80°8	60°9	19°9	101°2	36°9	64°3	74°2	78°0	70°3	+0°7
	Chikalda . . .	3,642	3°25	2°30	°095	2°74	—°010		79°9	63°8	16°1	98°4	46°9	51°5	73°4	77°3	71°4	+0°1
HILL STATIONS, SOUTH INDIA.	Kodaikanal . . .	7,688	22°846	22°776	°070	22°807			64°7	51°4	13°3	74°5	42°7	31°8	61°4	59°1	56°5	
	Ootacamund . . .	7,329	23°075	23°004	°071	23°040			65°6	49°7	15°9	74°7	34°2	40°5	62°4	60°8	56°4	
EXTRA INDIA . . .	Aden . . .	94	29°849	29°722	°127	29°782	+°008	29°807	87°6	78°1	9°5	98°1	67°7	30°4	84°0	86°1	82°7	+0°5
	Perim . . .	201	7°10	5°95	°115	6°49	+°013	°781	89°2	79°4	9°8	101°3	67°6	33°7	85°9	86°4	83°6	—0°3
	Minicoy* . . .	7	8°51	8°82	°069	8°14		°846	86°4			91°7			84°2	83°8		
	Zanzibar . . .	73	9°93	8°82	°111	9°38	—°006	°937	84°4	76°8	7°6	91°6	69°6	22°0	80°4	83°6	80°4	+0°8
	Port Victoria (Seychelles). . .	15	9°76	8°89	°087	9°33	—°012	°872	83°0	73°9	9°1	88°0	67°9	20°1	81°2	82°1	78°2	—1°1
	Mauritius (Pamplemousses). . .	181				8°75	—°012	30°004				89°0	55°1	33°9			73°3	—0°2

* Observations for 10 months.

N.B. — Elevations in italics indicate barometric determinations.

ANNUAL SUMMARY, 1903.

cclix

II—concl'd.

at 62 Stations in India, Burma, etc., in the year 1903—concl'd.

TEMPERATURE, WET-BULB.				VAPOUR TENSION.					HUMIDITY.					CLOUD.				RAINFALL.		STATION.	METEOROLOGICAL PROVINCE.
Mean minimum.	Mean 10 hours.	Mean 16 hours.	Mean of three previous columns.	From minimum.	Mean 10 hours.	Mean 16 hours.	Mean of three previous columns.	Departure from normal.	From minimum.	Mean 10 hours.	Mean 16 hours.	Mean of three previous columns.	Departure from normal.	Mean 10 hours.	Mean 16 hours.	Mean of two previous columns.	Departure from normal.	Total rainfall for the year.	Heaviest rain-fall during the year.		
20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
64·6	72·0	74·2	70·3	·539	·659	·668	·622	+·074	70	59	49	59	+6	4·9	5·9	5·4	+0·4	29·06	6·38	Bellary.	SOUTH INDIA— <i>concl'd.</i>
71·4	74·4	75·1	73·7	·732	·745	·776	·751		83	64	67	71		5·4	5·3	5·4		30·67	2·56	Waltair.	
39·2	49·6	50·7	46·5	·228	·236	·213	·225	—·024	78	41	34	51	+1	1·5	2·4	2·0	—0·3	11·73	1·50	Quetta . . .	
23·9	31·1	34·4	29·8	·122	·116	·126	·121	—·014	62	30	24	39	†	4·4	5·4	4·9	—0·5	4·08	0·66	Leh . . .	
42·2	51·2	58·2	50·5	·281	·388	·488	·385	+·024	86	82	77	82	+5	4·4	4·6	4·5	0	35·63	1·80	Srinagar.	HILL STATIONS, BALUCHISTAN, HILL STATIONS, NORTHERN INDIA.
43·5	47·5	48·9	46·6	·244	·262	·281	·262	—·026	63	53	55	57	—3	4·9	5·8	5·4	+0·2	53·31	4·89	Simla (Ridge).	
44·1	49·5	50·3	48·0	·256	·290	·297	·281	—·021	66	56	56	59	—5	4·0	4·5	4·3	—0·3	76·91	9·08	Chakrata.	
48·2	53·1	53·6	51·7	·307	·328	·330	·322	—·023	70	55	53	59	—5	3·8	4·5	4·2	—0·3	37·37	3·42	Ranikhet.	
42·8	49·5	50·3	47·5	·243	·284	·301	·276		65	54	57	59		4·5	5·5	5·0		35·36	1·64	Muktesar.	HILL STATIONS, CENTRAL INDIA.
51·4	59·1	61·2	57·2	·402	·443	·436	·435	—·013	89	64	53	69	—3	3·7	4·3	4·6	—0·7	55·49	3·76	Katmandu.	
45·5	51·7	53·2	50·2	·305	·366	·388	·353	0	86	78	79	81	—4	5·2	6·1	5·7	—1·0	100·66	6·61	Darjeeling.	
53·0	57·9	58·9	56·6	·322	·353	·358	·345	—·021	54	45	43	47	—5	3·1	3·4	3·3	—0·4	47·74	4·75	Mount Abu	
55·1	61·1	62·8	59·7	·399	·409	·414	·407	—·006	71	49	45	55	—2	4·1	4·9	4·5	+0·3	87·36	7·19	Pachmarhi.	HILL STATIONS, SOUTH INDIA.
56·5	62·5	64·6	61·2	·393	·460	·476	·443	+·011	65	57	53	58	—1	3·3	4·2	3·8	—0·6	78·20	10·00	Chikalda.	
46·8	54·2	55·2	51·9	·281	·263	·400	·345		73	66	80	76		5·3	7·2	6·3		69·55	5·24	Kodaikanal	
47·3	54·4	55·3	52·3	·309	·345	·385	·346		84	63	73	74		5·3	7·0	6·2		75·85	2·60	Ootacamund.	
72·0†	76·0	74·5	74·5†	·706†	·802	·708	·747†	†	72†	68	56	65†	†	3·4	1·3	2·4	—0·1	5·43	1·20	Aden . . .	EXTRA INDIA.
73·1	77·1	76·9	75·7	·733	·823	·803	·787	+·028	73	67	63	68	+3	0·7	0·7	0·7	—1·3	2·83	0·74	Perim.	
	78·0	77·6			·877	·863				75	75			5·1	5·6	5·4		54·30	2·91	Minicoy.	
72·2†	76·4	76·7	75·0†	·736†	·862	·829	·807†	†	80†	83	72	78†	†	6·4	5·4	5·9	+1·1	56·31	3·77	Zanzibar.	
72·7	75·8	75·8	74·8	·795	·822	·813	·810	+·025	94	77	74	82	+4	6·4	6·6	6·5	+0·2	132·79	6·05	Port Victoria (Seychelles).	MAURITIUS (Pamplermouses).
			68·4				·623	0				75	0				+0·2	43·08	4·24		

† Mean of 11 months.

Corrigenda in India Monthly Weather Reviews for the year 1903.

TEXT.

Page.	Column.	Part.	Correction.
3	2	January 1903 .	For "+021" and "+005" read "+022" and "+006," respectively, against Burma Coast and Bay Islands in figure columns 1 and 2 of the 2nd tabular statement.
27	1	Ditto .	Omit " " in heads of figure columns 1, 2 and 3 of the 2nd tabular statement.
35	...	Ditto .	For "0," "0" and "-014" read "01," "002" and "-012," respectively, against Tenasserim in the figure columns 1, 3 and 5 of the tabular statement.
35	...	Ditto .	For "061" and "+018" read "060" and "+017," respectively, against Eastern Bengal in the figure columns 3 and 5 of the tabular statement.
35	...	Ditto .	For "17," "08," "073," "037" and "+036" read "18," "07," "076," "036" and "+040," respectively, against Deltaic Bengal in the figure columns 1, 2, 3, 4 and 5 of the tabular statement.
35	...	Ditto .	For "046" and "-012" read "048" and "-014," respectively, against Central Bengal in the figure columns 4 and 5 of the tabular statement.
35	...	Ditto .	For "07," "12," "029," "055" and "-026" read "10," "11," "033," "048" and "-015," respectively, against North Bengal in the figure columns 1, 2, 3, 4 and 5 of the tabular statement.
35	...	Ditto .	For "16," "084" and "+060" read "15," "079" and "+055," respectively, against Orissa in the figure columns 1, 3 and 5 of the tabular statement.
35	...	Ditto .	For "23," "087" and "+034" read "24," "093" and "+040," respectively, against Chota Nagpur in the figure columns 1, 3 and 5 of the tabular statement.
35	...	Ditto .	For "015," "075" and "-060" read "014," "076" and "-062," respectively, against Bihar (South) in the figure columns 3, 4 and 5 of the tabular statement.
35	...	Ditto .	For "022," "066" and "-044" read "021," "067" and "-046," respectively, against Bihar (North) in the figure columns 3, 4 and 5 of the tabular statement.
36	...	Ditto .	For "10" read "09" against Oudh (South) in the figure column 1 of the tabular statement.
76	...	February 1903 .	For "21," "143," "098" and "+045" read "20," "137," "095" and "+042," respectively, against Eastern Bengal in the figure columns 1, 3, 4 and 5 of the tabular statement.
76	...	Ditto .	For "110" and "-024" read "112" and "-022," respectively, against Assam (Brahmaputra) in the figure columns 3 and 5 of the tabular statement.
76	...	Ditto .	For "18," "066" and "-007" read "19," "067" and "-006," respectively, against Central Bengal in the figure columns 1, 3 and 5 of the tabular statement.
76	...	Ditto .	For "048," "079," and "-031," read "055," "085" and "-030," respectively, against Bengal Hills in the figure columns 3, 4 and 5 of the tabular statement.
76	...	Ditto .	For "22" read "23" against Orissa in the figure column 1 of the tabular statement.
76	...	Ditto .	For "066" and "-013" read "067" and "-012," respectively, against Chota Nagpur in the figure columns 3 and 5 of the tabular statement.
87	...	March 1903 .	For "011" read "-011" against South India in the 1st figure column of the 2nd tabular statement.
123	...	Ditto .	For "02," "018" and "-064" read "04," "028" and "-054," respectively, against Tenasserim in the figure columns 1, 3 and 5 of the tabular statement.

Corrigenda in India Monthly Weather Reviews for the year 1903—continued.

TEXT—continued.

Page.	Column.	Part.	Correction.
123	...	March 1903 . .	For "0.3," "0.28" and "0" read "0.5," "0.35" and "+0.07," respectively, against Arakan in the figure columns 1, 3 and 5 of the tabular statement.
123	...	Ditto . .	For "5.0," "3.35," and "+1.02" read "4.8," "3.25" and "+0.92," respectively, against Eastern Bengal in the figure columns 1, 3 and 5 of the tabular statement.
123	...	Ditto . .	For "1.96" and "+0.53" read "1.99" and "+0.56," respectively, against Deltaic Bengal in the figure columns 3 and 5 of the tabular statement.
123	...	Ditto . .	For "1.9," "1.10," "1.30" and "—0.20" read "1.8," "1.07," "1.26" and "—0.19," respectively, against North Bengal in the figure columns 2, 3, 4 and 5 of the tabular statement.
123	...	Ditto . .	For "0.38," and "—0.29" read "0.37," and "—0.28," respectively, against Bihar (South) in the figure columns 4 and 5 of the tabular statement.
123	...	Ditto . .	For "0.39" and "—0.32" read "0.38" and "—0.31," respectively, against Bihar (North) in the figure columns 4 and 5 of the tabular statement.
160	...	April 1903 . .	For "0.1," "0.05" and "—1.78" read "0.2," "0.07" and "—1.76," respectively, against Lower Burma (Deltaic) in the figure columns 1, 3 and 5 of the tabular statement.
160	...	Ditto . .	For "1.3," "0.78," "4.21" and "—3.43" read "1.4," "0.80," "4.32" and "—3.52," respectively, against Eastern Bengal in the figure columns 1, 3, 4 and 5 of the tabular statement.
160	...	Ditto . .	For "2.3," "1.15," "2.30" and "—1.15" read "2.2," "1.13," "2.31" and "—1.18," respectively, against Deltaic Bengal in the figure columns 1, 3, 4 and 5 of the tabular statement.
160	...	Ditto . .	For "2.0," "2.5," "0.79," "1.44" and "—0.65" read "1.9," "2.4," "0.76," "1.42" and "—0.66," respectively, against Central Bengal in the figure columns 1, 2, 3, 4 and 5 of the tabular statement.
160	...	Ditto . .	For "1.4," "0.83," "1.28" and "—0.45" read "1.3," "0.78," "1.26" and "—0.48," respectively, against Orissa in the figure columns 1, 3, 4 and 5 of the tabular statement.
160	...	Ditto . .	For "3.1," "1.29," "0.86" and "+0.43" read "3.2," "1.30," "0.85" and "+0.45," respectively, against Chota Nagpur in the figure columns 1, 3, 4 and 5 of the tabular statement.
160	...	Ditto . .	For "0.7," "0.28" and "—0.05" read "0.6," "0.29" and "—0.06," respectively, against Bihar (South) in the figure columns 1, 4 and 5 of the tabular statement.
160	...	Ditto . .	For "0.81" and "—0.74" read "0.80" and "—0.73," respectively, against Bihar (North) in the figure columns 4 and 5 of the tabular statement.
160	...	Ditto . .	For "0.3," "0.09" and "—0.04" read "0.4," "0.12" and "—0.01," respectively, against United Provinces (East) in the figure columns 1, 3 and 5 of the tabular statement.
160	...	Ditto . .	For "0.28" and "—0.85" read "0.30" and "—0.83," respectively, against Bombay Deccan in the figure columns 3 and 5 of the tabular statement.
202	...	May 1903 . .	For "5.63," "10.33" and "—4.70" read "5.76," "10.35" and "—4.59," respectively, against Eastern Bengal in the figure columns 3, 4 and 5 of the tabular statement.
202	...	Ditto . .	For "6.3," "3.24," "4.63" and "—1.39" read "6.2," "3.22," "4.57" and "—1.35," respectively, against Central Bengal in the figure columns 2, 3, 4 and 5 of the tabular statement.
202	...	Ditto . .	For "5.1" read "5.0" against Orissa in the figure column 2 of the tabular statement.
202	...	Ditto . .	For "3.4," "3.7," "2.29," "2.17" and "+0.12" read "3.3," "3.6," "2.22," "2.18" and "+0.04," respectively, against Chota Nagpur in the figure columns 1, 2, 3, 4 and 5 of the tabular statement.

Corrigenda in India Monthly Weather Reviews for the year 1903—continued.

TEXT—concluded.

Page.	Column.	Part.	Correction.
202	...	May 1903 . . .	For "2'1", "1'41" and "—1'02" read "2'0", "1'40", and "—1'01", respectively, against Bihar (South) in the figure columns 2, 4 and 5 of the tabular statement.
202	...	Ditto . . .	For "7'67" and "+ 6'19" read "7'65" and "+ 6'17", respectively, against Konkan in the figure columns 3 and 5 of tabular statement.
202	...	Ditto . . .	For "3'04" and "+ 1'33" read "3'05" and "+ 1'34", respectively, against Bombay Deccan in the figure columns 3 and 5 of the tabular statement.
236	...	June 1903 . . .	For "+ 0'6" read "—0'6" against Deltaic Bengal in the figure column 7 of the tabular statement.
249	...	Ditto . . .	For "25'8", "25'7", "36'32", "40'11" and "—3'79" read "25'2", "25'3", "33'98", "38'48" and "—4'50", respectively, against Tenasserim in the figure columns 1, 2, 3, 4 and 5 of the tabular statement.
249	...	Ditto . . .	For "18'4", "16'3", "19'90", "17'99" and "+ 1'91" read "18'1", "16'2", "19'85", "17'92" and "+ 1'93", respectively, against Eastern Bengal in the figure columns 1, 2, 3, 4 and 5 of the tabular statement.
249	...	Ditto . . .	For "11'2", "8'70", "10'50" and "—1'80" read "11'1", "8'67", "10'51", and "—1'84", respectively, against Central Bengal in the figure columns 1, 3, 4 and 5 of the tabular statement.
249	...	Ditto . . .	For "19'9", "27'12", "22'59" and "+ 4'53" read "19'5", "27'75", "20'38" and "+ 7'37", respectively, against Bengal Hills in the figure columns 2, 3, 4 and 5 of the tabular statement.
249	...	Ditto . . .	For "6'41" and "—2'94" read "6'48" and "—2'87", respectively, against Orissa in the figure columns 3 and 5 of the tabular statement.
249	..	Ditto . . .	For "10'6", "5'33", "9'25" and "—3'92" read "10'5", "5'45", "9'35" and "—3'90", respectively, against Chota Nagpur in the figure columns 2, 3, 4 and 5 of the tabular statement.
249	...	Ditto . . .	For "1'38" and "—3'48" read "1'41" and "—3'45", respectively, against Oudh (South) in the figure columns 3 and 5 of the tabular statement.
249	...	Ditto . . .	For "0'7", "0'15" and "—1'52" read "0'8", "0'16" and "—1'51", respectively, against Punjab (Central) in the figure columns 1, 3 and 5 of the tabular statement.
250	...	Ditto . . .	For "3'8" read "6'8" against Hyderabad (South) in figure column 2 of the tabular statement.
323	1	August 1903 . . .	For "thn" read "than" in the 4th line.
377	1	September 1903 . . .	For "w" read "u" throughout in figure column 4 under "small" of the tabular statement.
402	2	Ditto . . .	For "398" and "399" read "400" and "401", respectively, in the first line.

Corrigenda in India Monthly Weather Reviews for the year 1903—continued.

TABLES I AND II.

Page.	Part.	Table.	Meteorological Province or Station.	Heading.	Column number.	Correction.
iii	January 1903 . .	I	Rangoon . . .	Rainfall . .	49 and 51	For "1'15" and " + 0'04" read "1'23" and " + 1'02", respectively.
vi, vii	Ditto . .	I	VII.—North-West Frontier Province, Indus Valley, and North-West Rajputana.	Meteorological Province or district.	2 and 54	Omit "N.-W. Frontier Province."
vi, vii	Ditto . .	I	West Punjab . .	Number of district .	1 and 55	For "32" read "31".
viii	Ditto . .	I	Raipur . . .	Temperature of air	16, 17, 18, 19, 20, 23, 24 and 25.	Omit all figures.
x	Ditto . .	I	Kurnool . . .	Elevation, etc., and Pressure 8 A.M., etc.	4 and 7	For "058" and "30'011" read "945" and "30'028", respectively.
xi	Ditto . .	I	Chaman . . .	Rainfall . .	47	For "1'28" read "1'20."
xii	Ditto . .	I	Cherra Poonjee . .	Pressure 8 A.M., etc., and temperature of air.	5, 8, 10, 14, 18, 20, 21 and 25.	For "25'774," "25'900," "25'661," "59'0," "52'1," "14'0," "65'8" and "23'8" read "25'785," "25'911," "25'672," "58'4," "51'7," "13'4," "65'2" and "23'2", respectively.
xiii	Ditto . .	I	Zantibar . . .	Rainfall . .	48	Insert "—1'20."
xvi, xvii, xxvi, xxxvi, lvi, lvii, lxxvi, lxxvii, xcvi, xcvi, cxvii, clvi, clvii, clxxvi and clxxvii.	January to June and August and September.	II	N.-W. Frontier Province, Indus Valley and N.-W. Rajputana.	Meteorological Province.	1 and 56	Omit "N.-W. Frontier Province."
xvi	January 1903 . .	II	Nagpur Sanitary Commissioner's Office.	Pressure . .	4, 5, 7 and 9.	For "063," "927," "987," and "971" read "073," "937," "997" and "981", respectively.
xix	Ditto . .	II	Mauritius . . .	Wind direction .	47 and 48	For "N. 77° E." and "N. 87° E." read "S. 77° E." and "S. 87° E." respectively.
xxii	February 1903 . .	I	Sirajganj . . .	Temperature . .	16 and 20	For "54'9" and "22'9" read "55'0" and "22'8", respectively.
xxiii	Ditto . .	I	Port Blair . . .	Rainfall . .	52	For "4'64" read "4'68."
xxviii	Ditto . .	I	Raipur . . .	Temperature . .	16, 17, 18, 19, 20, 23, 24 and 25.	Omit all figures.
xxix	Ditto . .	I	Secunderabad . .	Rainfall . .	47	Insert "0'15."
xxx	Ditto . .	I	Periyakulam . .	Temperature . .	25	For "38'9" read "38'6."
xxx	Ditto . .	I	Kurnool . . .	Pressure . .	7	For "30'020" read "30'009."
xxx	Ditto . .	I	Pishin . . .	Temperature . .	21 and 25	For "6'3" and "63'0" read "76'3" and "63'3", respectively.
xxx	Ditto . .	I	Kailang . . .	Ditto . .	15, 17 and 19.	Insert "—1'2," "—2'7" and "—2'0.", respectively.
xxxi	Ditto . .	I	Ditto . . .	Rainfall . .	47 and 48	Insert "3'02" and "—1'93," respectively.
xxxii	Ditto . .	I	Cherra Poonjee . .	Pressure and Temperature.	5, 8, 10, 14, 18, 20, 21 and 25.	For "25'790," "25'906," "25'678," "61'1," "54'4," "13'4," "65'8," and "22'8" read "25'801," "25'917," "25'689," "60'5," "54'1," "11'8," "65'2" and "22'2", respectively.
xxxiii	Ditto . .	I	Meshed . . .	Rainfall . .	48	Insert " + 0'01."
xxxiii	Ditto . .	I	Baghdad . . .	Wind velocity .	38 and 39	Insert "4'3" and "—60," respectively.
xxxvi	Ditto . .	II	Darbhanga . . .	Temperature . .	11	For "32'9" read "51'9."

Corrigenda in India Monthly Weather Reviews for the year 1903—continued.

TABLES I AND II—continued.

Page.	Part.	Table.	Meteorological Province or Station.	Heading.	Column number.	Correction.
xxxvi	February 1903	II	Allahabad	Pressure	5	For "692" read "691."
xxxvi	Ditto	II	Nagpur Sanitary Commissioner's Office.	Pressure	4, 5, 7 and 9.	For "058," "915," "986" and "963," read "078," "925," "996" and "973," respectively.
xxxviii	Ditto	II	Simla	Temperature, Wet bulb.	23	For "247" read "347."
xxxviii	Ditto	II	Minicoy	Temperature of air and temperature, Wet bulb.	10, 16, 17 and 22.	For "85'8," "83'6," "83'2," and "76'8," read "85'9," "83'5," "83'1," and "76'7," respectively.
xxxviii	Ditto	II	Mauritius	Pressure	9	For "917," read "857."
xxxix	Ditto	II	Muktesar	Vapour tension	25	For "455" read "155."
xxxix	Ditto	II	Minicoy	Vapour tension	26	For "835," read "835."
xxxix	Ditto	II	Mauritius	Wind direction	47 and 48	For "N. 84° E." and "N. 80° E." read "S. 84° E." and "S. 80° E." respectively.
xlvi	March 1903	I	Raipur	Temperature	16, 17, 18, 19, 20, 23, 24 and 25.	Omit all figures.
lii	Ditto	I	Cherra Poonjee	Pressure and Temperature.	5, 8, 10, 14, 18, 20, 21 and 25.	For "25'685," "25'780," "25'605," "66'2," "60'0," "12'5," "72'3" and "23'8," read "25'697," "25'791," "25'616," "65'6," "59'7," "11'9," "71'7" and "23'2," respectively.
lvi	Ditto	II	Nagpur Sanitary Commissioner's Office.	Pressure	4, 5, 7 and 9.	For "907," "768," "833" and "784" read "917," "778," "843" and "794," respectively.
lvi, lvii	Ditto	II	Chittagong	Temperature Wet bulb, Vapour tension and Rainfall.	22, 26, 27, 28 and 53.	For "73'6," "722," "699" and "016" and "6'15" read "73'7," "726," "700," "017" and "5'12," respectively.
lix	Ditto	II	Mauritius	Wind direction	48	For "N. 80° E." read "S. 80° E."
lxvi	April 1903	I	Rhavnnagar Para	Elevation, etc.	4	For 34 read 55.
lxviii	Ditto	I	Raipur	Temperature	16, 17, 18, 19, 20, 23, 24 and 25.	Omit all figures.
lxx	Ditto	I	Kurnool	Pressure	5, 6, 7, 8 and 10.	For "28'925," "005," "29'80," "29'024" and "28'812" read "28'932," "012," "29'808," "29'031" and "28'819," respectively.
lxxii	Ditto	I	Cherra Poonjee	Pressure and Temperature.	5, 8, 10, 14, 18, 20, 21 and 25.	For "25'690," "25'815," "25'570," "73'0," "65'8," "12'5," "80'8," "25'3" read "25'701," "25'826," "25'581," "72'4," "66'5," "11'9," "80'2" and "24'7," respectively.
lxxvi	Ditto	II	Nagpur Sanitary Commissioner's Office.	Pressure	4, 5, 7, 9.	For "851," "706," "774" and "709" read "851," "716," "784," and "719," respectively.
lxxviii, lxxix	Ditto	II	Minicoy	Temperature, Vapour tension and Humidity.	10, 16, 25 and 30.	For "87'1," "86'5," "88'5" and "70," read "87'3," "86'4," "88'7" and "71," respectively.
lxxviii	Ditto	II	Seychelles	Temperature	10, 12, 18 and 19.	For "84'7," "10'0," "79'5" and "1'2" read "84'9," "10'2," "79'6" and "1'1," respectively.
lxxxiii	May 1903	I	Diamond Island	Rainfall	44	For "11'03" read "11'18."
lxxxiv	Ditto	I	Motibari	Temperature	14, 18, 20, 21, 22 and 25.	For "101'1," "88'0," "112'0," "24th" and "44'1" read "101'0," "87'9," "26'1," "108'0," "22nd" and "4'1," respectively.
lxxxvii	Ditto	I	VI.—Upper Sub-Himalayas.	Rainfall	48	For "0'14," read "0'14."

Corrigenda in India Monthly Weather Reviews for the year 1903—continued.

TABLES I AND II—continued.

Page.	Part.	Table.	Meteorological Province or Station.	Heading.	Column number.	Correction.
lxxxviii	May 1903	I	Raipur	Temperature	16, 17, 18, 19, 20, 23, 24 and 25.	Omit all figures.
lxxxvii	Ditto	I	Indur	Pressure	10	For "27'479" read "28'479."
xc	Ditto	I	Kurnool	Pressure	5, 7, 8, and 10.	For "28'884," "29'760," "28'979," and "29'814," read "28'891," "29'767," "28'986" and "28'824" respectively.
xcii	Ditto	I	Cherra Poonjee	Pressure and Temperature.	5, 8, 10, 14, 18, 20, 21 and 25.	For "25'668," "25'759," "25'547," "73'8," "67'9," "11'8," "77'8" and "23'8," read "25'679," "25'770," "25'558," "73'2," "67'6," "11'2," "77'2" and "73'2," respectively.
xcvi	Ditto	II	Nagpur Sanitary Commissioner's Office.	Pressure	4, 5, 7 and 9.	For "784," "639," "711" and "647," read "794," "649," "721" and "657," respectively.
xcviii	Ditto	II	Mount Abu	Pressure	5	For "25'911" read "25'941."
ii	June 1903	I	Nagpur	Pressure	5, 6, 7, 8 and 10.	For "28'648," "+031," "29'614," "28'721" and "28'543" read "28'642," "+025," "29'608," "28'715," and "28'535," respectively.
cviii	Ditto	I	Raipur	Temperature	16, 17, 18, 19, 20, 23, 24 and 25.	Omit all figures.
cx	Ditto	I	Kurnool	Pressure	5, 6, 7, 8 and 10.	For "28'807," "—003," "29'686," "28'872," and "28'715" read "28'814," "+004," "29'693," "28'879" and "28'722," respectively.
cxii	Ditto	I	Salem	Rainfall	52 and 54	For "15'23," and "+7'25" read "15'24" and "+7'26," respectively.
cxii	Ditto	I	Cherra Poonjee	Pressure and Temperature.	5, 8, 10, 14, 18, 20, 21 and 25.	For "25'552," "25'660," "25'383," "71'4," "67'6," "76," "78'3" and "16'8," read "25'563," "25'671," "25'394," "70'8," "67'3," "70," "77'2," and "16'2," respectively.
cxiii	Ditto	I	Kashgar	Wind direction	26 and 27	Omit "27," and insert "27," respectively.
cxvi	Ditto	II	Nagpur	Pressure	4, 5, 7, 8 and 9.	For "651," "528," "595," "+032," and "543" read "645," "522," "589," "+026" and "537," respectively.
lxxvi	Ditto	II	Nagpur Sanitary Commissioner's Office.	Ditto	4, 5, 7, and 9.	For "663," "520," "602" and "539" read "673," "540," "612" and "549, respectively.
cxvii	Ditto	II	Diamond Island	Rainfall	53	For "19'87" read "19'92."
cxvii	July 1903	I	East Rajputana	Number of District.	1	For "blank" read "50."
cxviii	Ditto	I	Nagpur	Pressure	5, 6, 7, 8 and 10.	For "28'572," "—036," "29'549," "28'693" and "28'439" read "28'566," "—042," "29'543," "28'687" and "28'433," respectively.
cxix	Ditto	I	Kurnool	Ditto	5, 6, 7, 8 and 10.	For "28'763," "—057," "29'650," "28'844" and "28'665" read "28'770," "—050," "29'657," "28'851" and "28'672," respectively.

Corrigenda in India Monthly Weather Reviews for the year 1903—continued.

TABLES I AND II—continued.

Page.	Part.	Table.	Meteorological Province or Station.	Heading.	Column number.	Correction.
cxxxii	July 1903 . . .	I	Cherra Poonji . . .	Pressure and Temperature.	5, 8, 10, 14, 18, 20, 21 and 25.	For "25'520," "25'593," "25'463," "73'9," "69'7," "8'4," "80'8," and "18'8," read "25'540," "25'604," "25'474," "73'3," "69'4," "7'8," "80'2" and "18'2," respectively.
cxvvi	Ditto . . .	II	Nagpur . . .	Pressure . . .	4, 5, 7, 8 and 9.	For "579," "478," "529," "—032," and "495" read "573," "472," "523," "—038" and "489," respectively.
cxvvi	Ditto . . .	II	Nagpur Sanitary Commissioner's Office.	Ditto . . .	4, 5, 7 and 9.	For "538," "480," "534," and "491" read "598," "490," "544" and "501," respectively.
cxliii	August 1903 . . .	I	Diamond Island . . .	Rainfall . . .	49 and 51	For "31'12" and "+7'67" read "30'92" and "+7'47," respectively
cxlviii	Ditto . . .	I	Nagpur . . .	Pressure . . .	5, 6, 7, 8 and 10.	For "28'656," "+003," "29'640," "28'783" and "28'544" read "28'650," "—003," "29'634," "28'777" and "28'538," respectively.
cl	Ditto . . .	I	Kurnool . . .	Ditto . . .	5, 7, 8 and 10.	For "28'835," "29'726," "28'833" and "28'748" read "28'842," "29'733," "28'900" and "28'755," respectively.
clii	Ditto . . .	I	Cherra Poonjee . . .	Pressure and Temperature.	5, 8, 10, 14, 18, 20, 21 and 25.	For "25'572," "25'633," "25'408," "71'2," "68'0," "6'4," "78'3" and "15'3," read "25'583," "25'644," "25'509," "70'6," "67'7," "5'8," "77'7" and "14'7," respectively.
clvi	Ditto . . .	II	Nagpur . . .	Pressure . . .	4, 5, 7, 8 and 9.	For "670," "561," "614," "+002," and "584" read "604," "555," "608," "—004" and "578," respectively.
clvi	Ditto . . .	II	Nagpur Sanitary Commissioner's Office.	Ditto . . .	4, 5, 7 and 9.	For "676," "554," "618," and "579" read "686," "574," "628," and "589," respectively.
clxii	September 1903 . . .	I	II.—Burma Inland . . .	Temperature . . .	16, 18, 20 and 25.	For "75'6," "83'2," "15'3" and "22'7" read "75'9," "83'3," "14'7" and "21'8," respectively.
clxii	Ditto . . .	I	Monywa . . .	Pressure . . .	5, 7, 8 and 10.	For "29'514," "29'783," "29'640," "29'480" read "29'577," "29'796," "29'653" and "29'493," respectively.
clxii	Ditto . . .	I	Ditto . . .	Temperature . . .	16, 18, 20, 23, 24 and 25.	Omit all the figures.
clxv	Ditto . . .	I	United Provinces (East)	Number of District	58	For "13" read "18."
clxv	Ditto . . .	I	North Oudh . . .	Ditto	58	For "2" read "20."
clxviii	Ditto . . .	I	Nagpur . . .	Pressure . . .	5, 6, 7, 8 and 10.	For "28'750," "+0'11," "29'733," "28'844" and "28'668" read "28'744," "+0'05," "29'727," "28'838" and "28'662," respectively.
clxx	Ditto . . .	I	Madras (East Coast, South).	Number of District.	1	Insert "56."
clxx	Ditto . . .	I	Kurnool . . .	Pressure . . .	5, 6, 7, 8 and 10.	For "28'879," "—019," "29'772," "28'057" and "28'808" read "28'886," "—012," "29'779," "28'954" and "28'815," respectively.
clxxii	Ditto . . .	I	Cherra Poonjee . . .	Pressure and Temperature.	5, 8, 10, 14, 18, 20, 21 and 25	For "25'664," "25'743," "25'536," "72'8," "68'6," "8'4," "77'3," and "14'3" read "25'675," "25'759," "25'597," "72'2," "68'3," "7'8," "76'7" and "13'7," respectively.

Corrigenda in India Monthly Weather Reviews for the year 1903—continued.

TABLES I AND II—continued

Page.	Part.	Table.	Meteorological Province or Station.	Heading.	Column number.	Correction.
clxxvi	September 1903 . .	II	Nagpur . . .	Pressure . . .	4, 5, 7, 8 and 9.	For “‘760,” “‘636,” “‘699,” “‘+021” and “‘671” read “‘754,” “‘630,” “‘693,” “‘+015” and “‘665,” respectively.
clxxvi	Ditto . . .	II	Nagpur Sanitary Commissioner's Office.	Pressure . . .	4, 5, 7 and 9.	For “‘762,” “‘643,” “‘704,” and “‘667” read “‘772,” “‘653,” “‘714,” and “‘677,” respectively.
clxxvi	Ditto . . .	II	Bombay . . .	Elevation, etc. . .	3	For “3” read “37.”
clxxvii	Ditto . . .	II	Hyderabad (Deccan) .	Rainfall . . .	54	For “21” read “210.”
clxxix	Ditto . . .	II	Leh . . .	Station . . .	55	For “Le” read “Leh.”
clxxix	Ditto . . .	II	Hill Station, South India	Meteorological Province.	56	For “Hill Stations, State India” read “Hill Stations, South India.”
clxxxii	October 1903 . . .	I	II.—Burma Inland	Temperature . . .	16, 18, 20 and 25.	For “72°c,” “81°3,” “167,” and “247” read “74°1,” “81°9,” “155,” and “229,” respectively.
clxxxii	Ditto . . .	I	Monywa . . .	Pressure . . .	5, 7, 8 and 10.	For “29°612,” “29°830,” “29°772,” and “29°527” read “29°625,” “29°843,” “29°785,” and “29°540,” respectively.
clxxxii	Ditto . . .	I	Monywa . . .	Temperature . . .	16, 18, 20, 23, 24, and 25.	Omit all the figures.
clxxxvi	Ditto . . .	I	Rawalpindi . . .	Temperature . . .	23	For “49” read “496.”
clxxxvi	Ditto . . .	I	Kurrachee . . .	Ditto . . .	14, 15, 18, 19, 20, 21, and 25.	For “91°5,” “—0°1,” “83°2,” “+1°9,” “16°6,” “97°4,” and “35°7” read “91°0,” “—0°6,” “83°0,” “+1°7,” “16°1,” “96°9,” and “35°2,” respectively.
clxxxviii	Ditto . . .	I	Nagpur . . .	Pressure . . .	5, 6, 7, 8 and 10.	For “28°820,” “—0°66,” “29°814,” “28°956,” and “28°623” read “28°814,” “—0°72,” “29°808,” “28°950,” and “28°617,” respectively.
cxc	Ditto . . .	I	Kurnool . . .	Ditto . . .	5, 6, 7, 8 and 10.	For “28°09,” “—0°59,” “29°803,” “29°009,” and “28°786” read “28°916,” “—0°52,” “29°810,” “29°016,” and “28°793,” respectively.
cxcii	Ditto . . .	I	Cherra Poonjee . . .	Pressure and Temperature.	5, 8, 10, 14, 18, 20, 21 and 25.	For “25°705,” “25°810,” “25°618,” “73°9,” “68°1,” “11°6,” “79°3,” and “20°3” read “25°716,” “25°821,” “25°629,” “73°3,” “67°8,” “11°0,” “78°7,” and “19°7,” respectively.
cxcvi	Ditto . . .	II	Kurrachee . . .	Temperature . . .	10, 12, 13, 15, 18 and 19.	For “91°7,” “16°9,” “97°6,” “31°2,” “82°0,” and “+2°3,” read “1°2,” “16°4,” “97°1,” “30°7,” “81°0,” and “+2°2,” respectively.
cxcvi	Ditto . . .	II	Nagpur . . .	Pressure . . .	4, 5, 7, 8 and 9.	For “828,” “718,” “769,” “—0°55,” and “745,” read “822,” “712,” “763,” “—0°61,” and “739,” respectively.
cxcvi	Ditto . . .	II	Nagpur Sanitary Commissioner's Office.	Ditto . . .	4, 5, 7 and 9.	For “834,” “721,” “774,” and “741,” read “844,” “731,” “784,” and “751,” respectively.
cxcviii	Ditto . . .	II	Mauritius . . .	Elevation, etc. . .	3	For “18” read “181.”
ccvi	November 1903 . . .	I	Kurrachee . . .	Temperature . . .	14, 15, 18, 19, 20, 21 and 25.	For “88°6,” “+1°2,” “74°c,” “+0°3,” “27°4,” “94°4,” and “43°2” read “88°1,” “+0°7,” “74°7,” “+0°1,” “26°9,” “93°9,” and “42°7,” respectively.
ccviii	Ditto . . .	I	.....	.....	...	For page number “cviii” read “ccviii.”

Corrigenda in India Monthly Weather Reviews for the year 1903—concluded.

TABLES I AND II—concluded.

Page.	Part.	Table.	Meteorological Province or Station.	Heading.	Column number.	Correction.
ccviii	November 1903 . . .	I	Nagpur . . .	Pressure . . .	5, 6, 7, 8 and 10.	For "29'004," "+0'16," "30'025," "29'082," and "28'941" read "28'998," "+0'10," "30'019," "29'076," and "28'935," respectively.
ccx	Ditto . . .	I	Kurnool . . .	Ditto . . .	5, 6, 7, 8 and 10.	For "29'025," "-0'25," "29'935," "29'132," and "28'959" read "29'032," "-0'18," "29'942," "29'139," and "28'966," respectively.
ccxii	Ditto . . .	I	Cherra Poonjee . . .	Pressure and Temperature.	5, 8, 10, 14, 18, 20, 21 and 25.	For "25'725," "25'861," "25'571," "68'9," "61'7," "14'6," "79'8," and "30'8" read "25'736," "25'872," "25'582," "68'3," "61'3," "14'0," "79'2," and "30'2," respectively.
ccxvi, ccxvii	Ditto . . .	II	Ludhiana . . .	Temperature of air, Temperature Wet bulb and Vapour.	17, 22, 26, 27 and 28.	For "77'6," "58'2," "233," "251," and "-0'62" read "77'7," "58'1," "229," "250" and "-0'63," respectively.
ccxvi	Ditto . . .	II	Kurrachee . . .	Temperature . . .	10, 12, 13, 15, 18 and 19.	For "88'2," "27'1," "91'6," "40'2," "74'0," and "-0'1" read "87'7," "26'6," "91'1," "39'7," "73'9," and "-0'2," respectively.
ccxvi	Ditto . . .	II	Nagpur . . .	Pressure . . .	4, 5, 7, 8 and 9.	For "29'015," "89'4," "951," "+0'14," and "941" read "29'009," "883," "945," "+0'08," and "935," respectively.
ccxvi	Ditto . . .	II	Nagpur Sanitary Commissioner's Office.	Ditto . . .	4, 5, 7 and 9.	For "0'18," "89'4," "952," and "933," read "0'28," "904," "962," and "943" respectively.
ccxxvi	December 1903 . . .	I	Kurrachee . . .	Temperature . . .	14, 15, 18, 19, 20, 21 and 25.	For "81'2," "+0'9," "67'4," "-0'7," "27'6," "87'9," and "49'3" read "80'7," "+0'4," "67'2," "-0'9," "27'1," "87'4," and "48'8," respectively.
ccxxvi	Ditto . . .	I	Ajmer . . .	Ditto . . .	16, 17, 18, 19, 20, 23 and 25.	For "45'7," "+0'12," "60'8," "-0'22," "30'2," "37'9," and "44'5" read "46'2," "+0'6," "61'1," "+0'1," "29'7," "38'4," and "44'0," respectively.
ccxxviii	Ditto . . .	I	Nagpur . . .	Pressure . . .	5, 6, 7, 8 and 10.	For "29'037," "-0'05," "30'071," "29'127," and "28'952" read "29'031," "-0'11," "30'065," "29'121," and "28'946," respectively.
ccxxx	Ditto . . .	I	Kurnool . . .	Ditto . . .	5, 6, 7, 8 and 10.	For "29'078," "-0'30," "29'990," "29'161," and "9'017" read "29'085," "-0'23," "30'006," "29'168," and "29'024," respectively.
ccxxxii	Ditto . . .	I	Madras (East Coast, Central).	Number of district . . .	58	For "52" read "55."
ccxxxii	Ditto . . .	I	Cherra Poonjee . . .	Pressure and Temperature.	5, 8, 10, 14, 18, 20, 21 and 25.	For "25'721," "25'840," "25'567," "61'8," "55'2," "13'4," "69'3," and "24'8" read "25'732," "25'851," "25'578," "61'2," "54'8," "12'8," "68'7," and "24'2," respectively.
ccxxxvi	Ditto . . .	II	Kurrachee . . .	Temperature . . .	10, 12, 13, 15, 18 and 19.	For "81'0," "27'2," "88'0," "49'5," "65'9," and "-1'1" read "80'5," "26'7," "87'5," "49'0," "65'8," and "-1'2," respectively.
ccxxxvi	Ditto . . .	II	Nagpur . . .	Pressure . . .	4, 5, 7, 8 and 9.	For "0'52," "927," "983," "-0'01," and "981" read "0'46," "921," "977," "-0'07" and "975," respectively.
ccxxxvi	Ditto . . .	II	Nagpur Sanitary Commissioner's Office.	Ditto . . .	4, 5, 7 and 9.	For "0'60," "927," "987," and "976" read "0'70," "937," "977," and "986," respectively.

EXPLANATION OF PLATES.

PLATE I.—A chart of India shewing the 11 meteorological provinces and 57 districts of India.

PLATE II.—A chart of India shewing normal monthly rainfall and the departure from normal of the actual monthly rainfall, January and February 1903. This chart and the three following charts have been prepared to illustrate the data given in Table XXIX. These charts are drawn up in the same manner as the rainfall chart (Plate V) in the Monthly Weather Reviews of the year 1903.

PLATE III.—A chart of India shewing normal monthly rainfall and the departure from normal of the actual monthly rainfall, March to May 1903.

PLATE IV.—A chart of India shewing normal monthly rainfall and the departure from normal of the actual monthly rainfall, June to October 1903.

PLATE V.—A chart of India shewing normal monthly rainfall and the departure from normal of the actual monthly rainfall, November and December 1903.

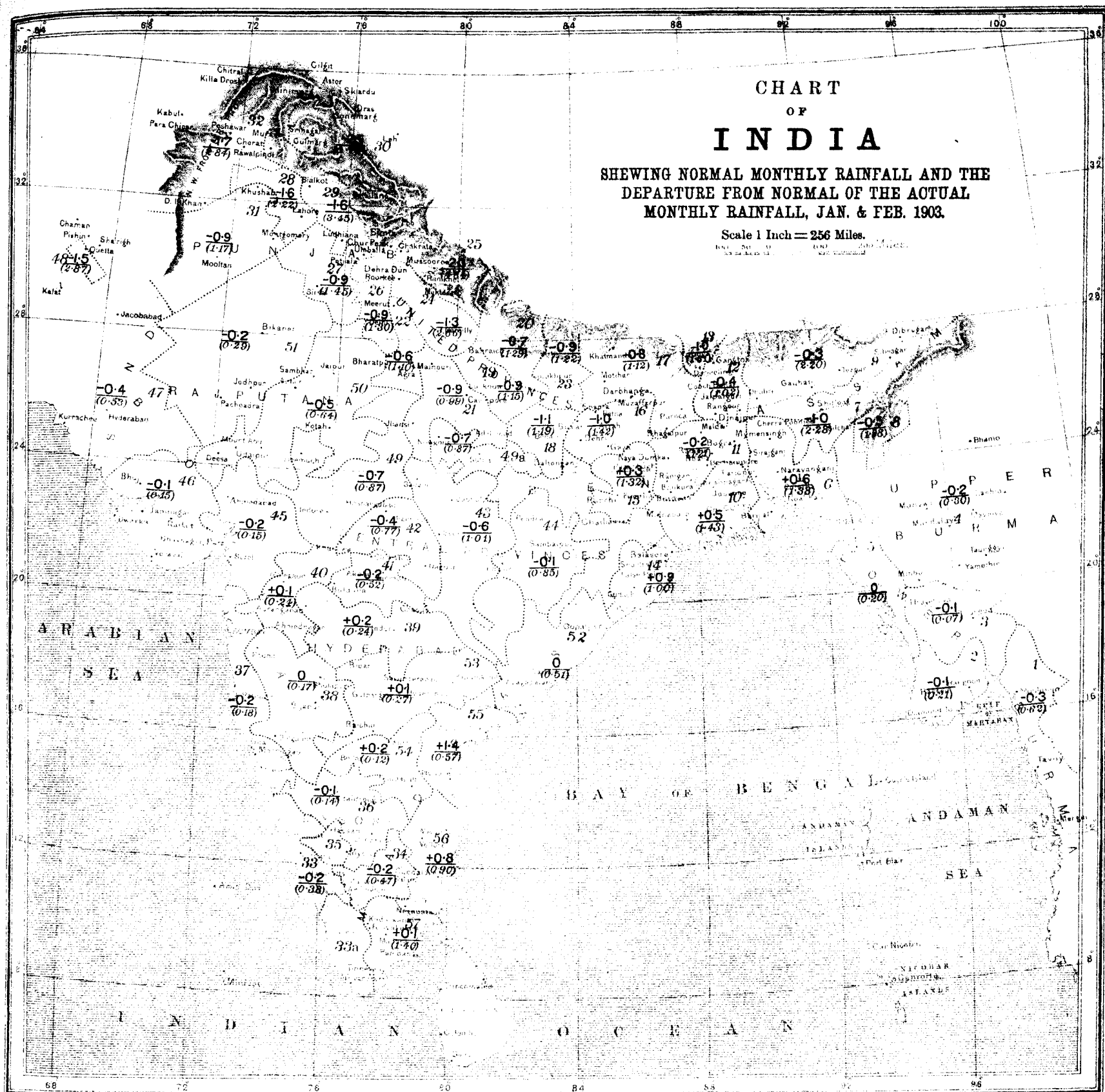
PLATE VI.—Chart shewing tracks of the more important cyclonic storms in the Indian area during the south-west monsoon, of 1903, a brief summary of which is given on pages 581 to 583.



Explanation.

The Chart gives the departures of the rainfall of the month (to tenths of an inch) from the normal over the whole of India and Burma. The country is divided into 57 areas, over each of which the meteorological conditions are fairly uniform, and the staple crops similar in character; and the means (both actual and normal) for the month have been calculated, and the numbers given in the centre of each division (usually with a + or - sign attached) give the difference between the actual and normal mean rainfall of the district of the month. A plus sign indicates that the rainfall was in excess, and a negative sign that it was in defect by the amounts indicated by the numbers to which the signs are attached. The normal average rainfall is also given below in smaller figures enclosed within brackets so that the percentage departure from the normal can be at once estimated. The name of the district can be at once ascertained by referring in the following list to the number given near the right hand boundary of each district in small slanting red figures.

1. Tenasserim	17. North Bihar	33. Malabar	48. Baluchistan Hills
2. Lower Burma Deltaic	18. United Provinces, East	34. Travancore	49. Central India, East
3. Central do.	19. South Oudh	35. Madras, South Central	50a. Do. do.
4. Upper do.	20. North do.	36. Coorg	50. Rajputana East Central India
5. Arakan	21. United Provinces, Central	37. Mysore	51. West Rajputana
6. East Bengal	22. Do. do. West	38. Konkan	52. Madras, East Coast, North
7. Assam, Surma	23. Do. do. East Submontane	39. Bombay Deccan	53. Hyderabad, South
8. Do., Hills	24. Do. do. West do.	40. Hyderabad, North	54. Madras, Central
9. Do., Brahmaputra	25. Do. do. Hills	41. Khandesh	55. Madras, East Coast, Central
10. Deltaic Bengal	26. South East Punjab	42. Berar	56. Do. East Coast, South
11. Central do.	27. South do.	43. Central Provinces, West	57. Madras, South
12. North do.	28. Central do.	44. Do., Central	
13. Bengal Hills	29. Punjab, Submontane	45. Do., East	
14. Orissa	30. Do., Hills	46. Gujarat	
15. Chota Nagpur	31. West Punjab	47. Kathiawar and Cutch	
16. South Bihar	32. North West Frontier Province	48. Sind	



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5. Arakan	21. United Provinces, Central	36. Mysore	50. West do.
6. East Bengal	22. Do. do., West	37. Konkan	51. West Rajputana
7. Assam, Surma	23. Do. do., East Submontane	38. Bombay Deccan	52. Madras, East Coast, North
8. Do., Hills	24. Do. do., West do.	39. Hyderabad, North	53. Hyderabad, South
9. Do., Brahmaputra	25. Do. do., Hills	40. Khandesh	54. Madras, Central
10. Deltaic Bengal	26. South East Punjab	41. Berar	55. Madras, East Coast, Central
11. Central do.	27. South do.	42. Central Provinces, West	56. Do. East Coast, South
12. North do.	28. Central do.	43. Do., Central	57. Madras, South
13. Bengal Hills	29. Punjab, Submontane	44. Do., East	
14. Orissa	30. Do., Hills	45. Gujarat	
15. Chota Nagpur	31. West Punjab	46. Kathiawar and Cutch	
16. South Bihar	32. North West Frontier Province	47. Sind	



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5. Arakan	21. United Provinces, Central	36. Mysore	50a. Do. do
6. East Bengal	22. Do. do., West	37. Konkan	51. West Rajputana
7. Assam, Surma	23. Do. do., East Submontane	38. Bombay Deccan	52. Madras, East Coast, North
8. Do., Hills	24. Do. do., West do.	39. Hyderabad, North	53. Hyderabad, South
9. Do., Brahmaputra	25. Do. do., Hills	40. Khandesh	54. Madras, Central
10. Deltaic Bengal	26. South East Punjab	41. Berar	55. Madras, East Coast, Central
11. Central do.	27. South do.	42. Central Provinces, West	56. Do. East Coast, South
12. North do.	28. Central do.	43. Do., Central	57. Madras, South
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The Chart gives the departures of the rainfall of the month (to tenths of an inch) from the normal over the whole of India and Burma. The country is divided into 57 areas, over each of which the meteorological conditions are fairly uniform, and the staple crops similar in character; and the means (both actual and normal for the month) have been calculated, and the numbers given in the centre of each division (usually with a + or - sign attached) give the difference between the actual and normal mean rainfall of the district of the month. A plus sign indicates that the rainfall was in excess, and a negative sign that it was in defect by the amounts indicated by the numbers to which the signs are attached. The normal average rainfall is also given below in smaller figures enclosed within brackets so that the percentage departure from the normal can be at once estimated. The name of the district can be at once ascertained by referring in the following list to the number given near the right hand boundary of each district in small slanting red figures.

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6. East Bengal	22. Do. do., West	37. Konkan	51. West Rajputana
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5. Arakan	21. United Provinces, Central	36. Mysore	West
6. East Bengal	22. Do. do., West	37. Konkan	51. West Rajputana
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10. Deltaic Bengal	26. South East Punjab	41. Berar	55. Madras, East Coast, Central
11. Central do.	27. South do.	42. Central Provinces, West	56. Do. East Coast, South
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MONTHLY WEATHER REVIEW,

JANUARY, 1903.

CONTENTS.

	Page		Page
Introduction	i	Summary of Special Storm Reports	16
Summary of the chief features of the weather in India during the month of January, 1903.	i	Brief Summary of the Weather in the Arabian Sea and Bay of Bengal during the month	16
Magnetic and Solar disturbances	7	Temperature of the Air	17
Atmospheric Pressure	7	Winds	26
Barometric depressions and cyclonic storms of the month	10	Humidity and Cloud	30
Summary of the Reports of the Weather and Snowfall in the Mountain Districts to the North and North-West of India	14	Rainfall	35
(A) — Central Asia	14	Crop Report	42
I. — Afghan Mountain Districts	14	Table I.—Abstract of observations taken at 8 A.M. at 230 stations in India, Burma, etc., in January, 1903	i
II. — Kashmir and Punjab Himalayas	14	Table II.—Abstract of observations recorded at 10 A.M. and 4 P.M. at 61 stations in India, Burma, etc., in January, 1903	xv
III. — United Provinces Himalayas	15		

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MONTHLY WEATHER REVIEW,

FEBRUARY, 1903.

CONTENTS.

	Page		Page
Introduction	45	Summary of Special Storm Reports	60
Summary of the chief features of the weather in India during the month of February, 1903	45	Brief Summary of the Weather in the Arabian Sea and Bay of Bengal during the month	60
Magnetic observations	52	Temperature of the Air	60
Atmospheric Pressure	52	Winds	68
Barometric depressions and cyclonic storms of the month	53	Humidity and Cloud	71
Summary of the Reports of the Weather and Snowfall in the Mountain Districts to the North and North-West of India	59	Rainfall	75
I.—Afghan Mountain Districts	59	Crop Report	80
II.—Kashmir and Punjab Himalayas	59	Table I.—Abstract of observations taken at 8 A.M. at 231 stations in India, Burma, etc., in February, 1903	xxi
III.—United Provinces Himalayas	59	Table II.—Abstract of observations recorded at 10 A.M. and 4 P.M. at 62 stations in India, Burma, etc., in February, 1903	xxxv

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MONTHLY WEATHER REVIEW,

MARCH, 1903.

CONTENTS.

	Page		Page
Introduction	83	Summary of special Storm Reports	107
Summary of the chief features of the weather in India during the month of March, 1903	83	Brief Summary of the Weather in the Arabian Sea and Bay of Bengal during the month	108
Magnetic and Solar disturbances	90	Temperature of the Air	109
Atmospheric Pressure	91	Winds	116
Barometric depressions and cyclonic storms of the month	92	Humidity and Cloud	119
Summary of the Reports of the Weather and Snowfall in the Mountain Districts to the North and North-West of India	103	Rainfall	122
I.—Afghan Mountain Districts	103	Crop Report	130
II.—Kashmir and Punjab Hima'ayas	104	Table I.—Abstract of observations taken at 8 A.M. at 230 stations in India, Burma, etc., in March, 1903	xli
III.—United Provinces Himalayas	106	Table II.—Abstract of observations recorded at 10 A.M. and 4 P.M. at 62 stations in India, Burma, etc., in March, 1903	lv
IV.—Assam Himalayas	106		

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MONTHLY WEATHER REVIEW

APRIL, 1903.

CONTENTS.

	Page		Page
Introduction	133	Summary of Special Storm Reports	148
Summary of the chief features of the weather in India during the month of April, 1903	133	Brief Summary of the Weather in the Arabian Sea and Bay of Bengal during the month	148
Geomagnetic and Magnetic disturbances	139	Temperature of the Air	144
Atmospheric Pressure	140	Winds	153
Barometric depressions and cyclonic storms of the month	141	Humidity and Cloud	153
Summary of the Reports of the Weather and Rainfall in the Mountain Districts to the South and North West of India	141	Rainfall	153
The Afghan Mountain Districts	141	Crop Report	153
The Kashmir and Punjab Himalayas	141	Table I.—Abstract of observations taken at 8 A.M. at 227 stations in India, Burma, etc., in April, 1903	153
The United Provinces Himalayas	142	Table II.—Abstract of observations recorded at 10 A.M. and 4 P.M. at 63 stations in India, Burma, etc., in April, 1903	153

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MONTHLY WEATHER REVIEW,

MAY, 1903.

CONTENTS.

	Page		Page
Introduction	169	Summary of Special Storm Reports	183
Summary of the chief features of the weather in India during the month of May, 1903	169	Brief Summary of the Weather in the Arabian Sea and Bay of Bengal during the month	186
Magnetic and Solar disturbances	175	Temperature of the Air	187
Atmospheric Pressure	170	Winds	195
Barometric depressions and cyclonic storms of the month	172	Humidity and Cloud	197
Summary of the Reports of the Weather and Snowfall in the Mountain Districts to the North and North-West of India	182	Rainfall	201
I.—Afghan Mountain Districts	182	Crop Reports	211
II.—Kashmir and Punjab Himalayas	182	Table I.—Abstract of observations taken at 8 A.M. at 228 stations in India, Burma, etc., in May, 1903	lxxxix
III.—United Provinces Himalayas	183	Table II.—Abstract of observations recorded at 10 A.M. and 4 P.M. at 63 stations in India, Burma, etc., in May, 1903	xcv

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MONTHLY WEATHER REVIEW,

JUNE, 1903.

CONTENTS.

	Page		Page
Introduction	213	Summary of Special Storm Reports	229
Summary of the chief features of the weather in India during the month of June, 1903	213	Brief Summary of the Weather in the Arabian Sea and Bay of Bengal during the month	232
Magnetic and Solar disturbances	220	Temperature of the Air	233
Atmospheric Pressure	222	Winds	242
Barometric depressions and cyclonic storms of the month	223	Humidity and Cloud	244
Summary of the Reports of the Weather and Snowfall in the Mountain Districts to the North and North-West of India	228	Rainfall	248
I.—Afghan Mountain Districts	228	Crop Report	262
II.—Kashmir and Punjab Himalayas	229	Table I.—Abstract of observations taken at 8 A.M. at 229 stations in India, Burma, etc., in June, 1903	ci
III.—United Provinces Himalayas	229	Table II.—Abstract of observations recorded at 10 A.M. and 4 P.M. at 61 stations in India, Burma, etc., in June, 1903	cxv

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CONTENTS.

	Page		Page
Introduction	263	Summary of Special Storm Reports	284
Summary of the chief features of the weather in India during the month of July, 1903	263	Brief Summary of the Weather in the Arabian Sea and Bay of Bengal during the month	285
Magnetic and Solar disturbances	270	Temperature of the Air	286
Atmospheric Pressure	272	Winds	296
Barometric depressions and cyclonic storms of the month	274	Humidity and Cloud	298
Summary of the Reports of the Weather and Snowfall in the Mountain Districts to the North and North-West of India	283	Rainfall	301
I.—Afghan Mountain Districts	283	Crop Report	315
II.—Kashmir and Punjab Himalayas	283	Table I.—Abstract of observations taken at 8 A.M. at 231 stations in India, Burma, etc., in July, 1903	cxxi
III.—United Provinces Himalayas	283	Table II.—Abstract of observations recorded at 10 A.M. and 4 P.M. at 64 stations in India, Burma, etc., in July, 1903	cxxxv

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CONTENTS.

	Page		Page
Introduction	317	Summary of Special Storm Reports	337
Summary of the chief features of the weather in India and the Indian monsoon area, during the month of August, 1903.	317	Brief Summary of the Weather in the Arabian Sea and Bay of Bengal during the month	338
Magnetic and Solar disturbances.	325	Temperature of the Air	339
Atmospheric Pressure	327	Winds	346
Barometric depressions and cyclonic storms of the month	328	Humidity and Cloud	349
Summary of the Reports of the Weather and Snowfall in the Mountain Districts to the North and North-West of India	337	Rainfall	353
I.—Kashmir and Punjab Himalayas	337	Crop Report	366
II.—United Provinces Himalayas	337	Table I.—Abstract of observations taken at 8 A.M. at 232 stations in India, Burma, etc., in August, 1903	cxli
		Table II.—Abstract of observations recorded at 10 A.M. and 4 P.M. at 64 stations in India, Burma, etc., in August, 1903.	clv

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MONTHLY WEATHER REVIEW,

SEPTEMBER, 1903.

CONTENTS.

	Page		Page
Introduction	369	Summary of Special Storm Reports	383
Summary of the chief features of the weather in India during the month of September, 1903	369	Brief Summary of the Weather in the Arabian Sea and Bay of Bengal during the month	384
Magnetic and Solar disturbances	376	Temperature of the Air	385
Atmospheric Pressure	378	Winds	393
Barometric depressions and cyclonic storms of the month	380	Humidity and Cloud	396
Summary of the Reports of the Weather and Snowfall in the Mountain Districts to the North and North-West of India	383	Rainfall	400
I.—Afghan Mountain Districts	383	Crop Report	415
II.—Kashmir and Punjab Himalayas	383	Table I.—Abstract of observations taken at 8 A.M. at 232 stations in India, Burma, etc., in September, 1903	clxi
III.—United Provinces Himalayas	383	Table II.—Abstract of observations recorded at 10 A.M. and 4 P.M. at 64 stations in India, Burma, etc., in September, 1903	clxxv

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MONTHLY WEATHER REVIEW,

OCTOBER, 1903.

CONTENTS.

	Page		Page
Introduction	417	Summary of Special Storm Reports	437
Summary of the chief features of the weather in India during the month of October, 1903	417	Brief Summary of the Weather in the Arabian Sea and Bay of Bengal during the month	438
Magnetic and Solar disturbances	423	Temperature of the Air	438
Atmospheric Pressure	425	Winds	447
Barometric depressions and cyclonic storms of the month	427	Humidity and Cloud	449
Summary of the Reports of the Weather and Snowfall in the Mountain Districts to the North and North-West of India	437	Rainfall	454
I.—Kashmir and Punjab Himalayas	437	Crop Report	465
II.—United Provinces Himalayas	437	Table I.—Abstract of observations taken at 8 A.M. at 231 stations in India, Burma, etc., in October, 1903.	clxxxi
		Table II.—Abstract of observations recorded at 10 A.M. and 4 P.M. at 64 stations in India, Burma, etc., in October, 1903	cxcv

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CONTENTS.

	Page		Page
Introduction	467	Summary of Special Storm Reports	485
Summary of the chief features of the weather in India during the month of November, 1903	467	Brief Summary of the Weather in the Arabian Sea and Bay of Bengal during the month	486
Magnetic and Solar disturbances	475	Temperature of the Air	486
Atmospheric Pressure	477	Winds	494
Barometric depressions and cyclonic storms of the month	478	Humidity and Cloud	497
Summary of the Reports of the Weather and Snowfall in the Mountain Districts to the North and North-West of India	485	Rainfall	501
I.—Afghan Mountain Districts	485	Crop Report	510
II.—Kashmir and Punjab Himalayas	485	Table I.—Abstract of observations taken at 8 A.M. at 233 stations in India, Burma, etc., in November, 1903	cc1
III.—United Provinces Himalayas	485	Table II.—Abstract of observations recorded at 10 A.M. and 4 P.M. at 63 stations in India, Burma, etc., in November, 1903	ccxv

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DECEMBER, 1903.

CONTENTS.

	Page		Page
Introduction	511	Brief Summary of the Weather in the Arabian Sea and Bay of Bengal during the month	522
Summary of the chief features of the Weather in India during the month of December, 1903	511	Temperature of the Air	523
Magnetic and Solar disturbances	517	Winds	524
Atmospheric Pressure	519	Humidity and Cloud	524
Barometric depressions and cyclonic storms of the month	520	Rainfall	
Summary of the Reports of the Weather and Snowfall in the Mountain Districts to the North and North-West of India	521	Crop Report	
I.—Afghan Mountain Districts	521	Table I.—Abstract of observations recorded at 8 A.M. at 231 stations in India, Burma, etc., in December, 1903	CCXXI
II.—Kashmir and Punjab Himalayas	521	Table II.—Abstract of observations recorded at 10 A.M. and 4 P.M. at 63 stations in India, Burma, etc., in December, 1903	CCXXXV
III.—United Provinces Himalayas	522		
Summary of Special Storm Reports	522		

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INDIA WEATHER REVIEW. ANNUAL SUMMARY, 1903.

CONTENTS:

	Page		Page
Introduction	547	Winds	584
Solar and Magnetic Activity	549	Humidity	591
Table I.—Mean monthly absolute values of Horizontal force, Declination and Dip at Colaba	550	Table XVII.—Departure of the monthly and annual mean vapour pressure data of 1903 from the averages of past years	591
Table II.—Seismic Disturbances recorded at Colaba	551	Table XVIII.—Departure of the monthly and annual mean relative humidity data of 1903 from the averages of past years	593
Solar Radiation	552	Table XIX.—Geographical summary of the aqueous vapour pressure departure data of Table II in the Monthly Weather Reviews of 1903	594
Table III.—Average excess of mean monthly and annual maximum insolation over the corresponding maximum shade temperatures	552	Table XX.—Geographical summary of the humidity departure data of Table II in the Monthly Weather Reviews of 1903	595
Table IV.—Departures from the averages of Table III of mean monthly and annual excess of sun over shade temperatures in 1903	552	Table XXI.—Departure of the mean monthly aqueous vapour pressure from the normal in nine meteorological provinces of India in 1903	596
Table V.—Departures from normal of the annual mean excess of sun over shade temperature for each year of the period 1890–1903	552	Table XXII.—Departure of the mean monthly relative humidity from the normal in nine meteorological provinces of India in 1903	596
Nocturnal Radiation	553	Cloud	603
Table VI.—Average depression of mean monthly and annual nocturnal radiation temperatures below mean minimum shade temperatures	553	Table XXIII.—Departure of the monthly and annual mean cloud proportion in each month of 1903 from the averages of past years	603
Table VII.—Departures from the averages of Table VI of mean monthly and annual depression of nocturnal radiation temperatures in 1903	553	Table XXIV.—Geographical summary of the cloud departure data of Table II in the Monthly Weather Reviews of 1903	605
Table VIII.—Departures from normal of the mean annual depression of nocturnal radiation temperatures	553	Table XXV.—Departures from normal of the mean cloud amount in nine meteorological provinces of India in 1903	605
Temperature of the Ground	554	Snowfall	610
Table IX.—Departures from normal of the mean monthly and annual temperatures of the air and of the ground in 1903	554	Rainfall	611
Temperature	556	Table XXVI.—Departure of the monthly and total rainfall (in inches) in 1903, from the averages of past years	611
Table X.—Departures from normal of monthly and annual mean air temperatures in 1903	556	Table XXVII.—Geographical summary of Rainfall Anomalies in 1903	628
Table XI.—Geographical summary of the temperature data of Table II in the Monthly Weather Reviews of 1903	558	Table XXVIII.—Geographical summary of the distribution of rainfall in 1903 according to seasons	629
Table XII(a).—Departure of the mean monthly maximum temperature from the normal in 1903 in the eleven meteorological provinces of India	559	Table XXIX.—Average actual and normal rainfall data of the 57 meteorological divisions of India for the four seasons of the year 1903 and for the whole year	630
Table XII(b).—Departure of the mean monthly minimum temperature from the normal in 1903 in the eleven meteorological provinces of India	559	Table XXX.—Average actual and normal number of rainy days of the 57 meteorological divisions of India for the four seasons of the year 1903 and for the whole year	632
Table XII(c).—Departure of the mean monthly temperature from the normal in 1903 in the eleven meteorological provinces of India	560	Concluding Summary	649
Table XIII.—Departures of the mean monthly and annual temperatures from the normal in 1903 in 55 of the 57 meteorological districts or divisions of India	560	Appendix	662
Atmospheric Pressure.	572	Table I.—Abstract of observations taken at 8 A.M. at 229 stations in India, Burma, etc., in the year 1903	ccxli
Table XIV.—Departures from normal of monthly and annual mean pressures in 1903	572	Table II.—Abstract of observations taken at 10 A.M. and 4 P.M. at 62 stations in India, Burma, etc., in the year 1903	cciv
Table XV.—Geographical summary of the pressure departure data of Table II in the Monthly Weather Reviews of 1903	574	Corrigenda in India Monthly Weather Reviews for the year 1903	ccxi
Table XVI.—Departure of the mean pressure of each month of 1903 from the normal in the eleven meteorological provinces of India	574	Explanation of Plates	ccxxii

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